Appendix to Board Book for Board of Directors Meeting

20 Bay Street, Suite 1310, Toronto

8:30 a.m. to 12:30 p.m., Thursday March 29, 2018
Appendix to Board Book for March 29, 2018 Board Meeting

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Item 11.b)i- Portlands Flood Protection Project Soft Costs Memo

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Item 11.b)iii Enterprise Risk Management and Internal Audit

- Item 11.b)iii Cover Enterprise Risk Management Audit Mar 29 2018.docx Page 23
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Summary

The Port Lands Flood Protection Project (the “Project”) is a comprehensive strategy for flood protecting 240 hectares (715 acres) of land in southeastern downtown Toronto – including parts of the Port Lands, South Riverdale, Leslieville and the First Gulf/Unilever development site.

As Toronto’s downtown experiences continued population and job growth, the Port Lands remains the last significant undeveloped space in the heart of Canada’s largest city. Currently, about 290 hectares (715 acres) of the area is at risk of flooding from the Don River watershed under a provincially-defined Regulatory Storm event. The Project will remove the risk of flooding, allowing the underutilized Port Lands to transform into a long-term asset for the people and economy of Toronto, Ontario and Canada.

The area has enormous potential for residential and employment-generating commercial development in a part of the city that has been left unchanged during decades of development and modernization in Toronto’s downtown. This $1.25 billion project will facilitate billions of dollars in private investment. Investing strategically in the Project not only unlocks development value and protects existing neighborhoods, but also protects governments from significant financial risk. Without adequate mitigation and protection measures in place, governments will continue to assume the risk and costs associated with major flooding in this area. The significance of this risk is underlined by the Canadian National Disaster Management Strategy’s estimated cost-benefit ratio for investment in flood protection: for every dollar invested, five dollars of potential damages are avoided.

The Project will substantially enhance the area’s public realm, beautifying a key part of the downtown, creating more access to Lake Ontario and continuing the transformation and revitalization of Toronto’s waterfront.

In addition to broad public support, the Project and has secured environmental approval from the Ministry of the Environment and Climate Change (“MOECC”). It represents the second phase of a two-phase project. Phase 1 flood protection was implemented in the West Don Lands and enabled the successful construction of the Pan Am Athletes’ Village and an emerging new mixed-use community in a former flood plain.

Key project provisions are as follows:

- All orders of Government funded and approved $65 million for the Cherry Street Stormwater and Lake Filling project (formerly Essroc Quay Lakefilling) in September 2016 and it is now under construction. This is part of the $1.25-billion Project
- Toronto City Council has approved the City of Toronto’s 1/3 share of the funding for the Project through the 2017 Capital Budget and 10-Year Capital Plan
- With $65 million of the $1.25-billion Project funded in 2016, discussions continue between all orders of Government to finalize the outstanding funding commitment (Contribution Agreement) of $1.185 billion by March 31, 2018
The current total Board approved Capital for the $1.185 billion Project is $40 million based on Capital Approvals granted by the Board of Directors on March 27, 2017, September 14, 2017 and, December 7, 2017;

Delivery agreements totaling $40 million between the City of Toronto and Waterfront Toronto have been executed, and Federal Government Approval in Principle has been granted as required to allow mobilization and schematic design to commence:

The Executive Steering Committee (“ESC”), originally established in 2011/12 to oversee the Port Lands Acceleration Initiative, will continue to provide high level oversight throughout this project implementation phase;

Waterfront Toronto will be responsible for managing the design, engineering, project management, risk management, cost estimating, permits and approvals (all “Soft Costs”) covered in this current request for Capital Approval ($198,473,722)

Waterfront Toronto has commenced the planning and implementation phase for the Port Lands Flood Protection Project utilizing the $40 million committed by the City of Toronto. Waterfront Toronto has procured professional services for the schematic design and mobilization contemplated by the initial funding as well as for the completion of the overall project. Waterfront Toronto will continue work with previously selected vendors where required to maintain project continuity. In these cases, Waterfront Toronto will negotiate terms based on existing contractual arrangements.

Full engagement of this consulting team is subject to the Waterfront Toronto Board of Directors formal Capital Approval and the negotiation of a project specific Master Contribution Agreement (CA) with the City of Toronto, Province of Ontario and Government of Canada. This CA is anticipated to be in place by April 2018.

Objective

That the Board of Directors approve expenditures not to exceed $198,473,722 (inclusive of the $40 million approved to date) for the provision of design, engineering, project management, risk management, cost estimating, permits and approvals (all “Soft Costs”) related to the Project. The recommended Capital Approval amount of $198,473,722 is consistent with the recommended soft cost budget determined through the Due Diligence process. This approval will be conditional upon the execution of the Master Contribution Agreement between the Government of Canada, The Province of Ontario, The City of Toronto and Waterfront Toronto.

Due Diligence Budget Summary

During the Port Lands Flood Protection and Enabling Infrastructure Due Diligence program the total estimated cost for the project was recommended to be $1.25 billion in accordance with Table 1 below.

Table 1

<table>
<thead>
<tr>
<th>Cost Element</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Base Construction Cost Element (2016$)</td>
<td>$ 784,000,000</td>
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<tr>
<td>20% Soft Cost Factor (2016$)</td>
<td>$ 157,000,000</td>
</tr>
<tr>
<td>1.76% Non-Recoverable HST (2016$)</td>
<td>$ 17,000,000</td>
</tr>
<tr>
<td>Escalation Allowance</td>
<td>$ 119,000,000</td>
</tr>
<tr>
<td>Risk Contingency</td>
<td>$ 173,000,000</td>
</tr>
<tr>
<td>Recommended Project Budget</td>
<td>$ 1,250,000,000</td>
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Refer to page 76 of the Due Diligence report for additional details with respect to the breakdown contained in Table 1.

The recommended Project cost is comprised of numerous individual sub-projects as detailed in Table 2. A summary of these component projects and costs can be found on page 83 of the Due Diligence Report.

Table 2

<table>
<thead>
<tr>
<th>Work Package Description</th>
<th>Project Component Numbering</th>
<th>Hard Cost Estimate</th>
<th>Soft Cost Allowance AVERAGE 20%</th>
<th>Escalation Allowance AVERAGE 12.6%</th>
<th>Risk Contingency AVERAGE 18.3%</th>
<th>Non-Recoverable HST</th>
<th>Total Project Budget</th>
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<tr>
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<td>$ 2,300,000</td>
<td>$ 1,800,000</td>
<td>$ 2,700,000</td>
<td>$ 200,000</td>
<td>$ 18,000,000</td>
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<tr>
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<td>$ 4,200,000</td>
<td>$ 900,000</td>
<td>$ 700,000</td>
<td>$ 1,000,000</td>
<td>$ 200,000</td>
<td>$ 7,000,000</td>
</tr>
<tr>
<td>Cherry Street Re-alignment (North &amp; South of Keating)</td>
<td>34a</td>
<td>$ 13,800,000</td>
<td>$ 2,800,000</td>
<td>$ 2,100,000</td>
<td>$ 3,000,000</td>
<td>$ 300,000</td>
<td>$ 22,000,000</td>
</tr>
<tr>
<td>Don Roadway North</td>
<td>7a</td>
<td>$ 4,200,000</td>
<td>$ 900,000</td>
<td>$ 700,000</td>
<td>$ 1,000,000</td>
<td>$ 200,000</td>
<td>$ 7,000,000</td>
</tr>
<tr>
<td>Hydro One Integration</td>
<td>18</td>
<td>$ 7,300,000</td>
<td>$ 1,500,000</td>
<td>$ 1,100,000</td>
<td>$ 1,800,000</td>
<td>$ 300,000</td>
<td>$ 12,000,000</td>
</tr>
<tr>
<td>Site Wide Municipal Infrastructure</td>
<td>5</td>
<td>$ 64,000,000</td>
<td>$ 12,800,000</td>
<td>$ 9,800,000</td>
<td>$ 14,000,000</td>
<td>$ 1,400,000</td>
<td>$ 102,000,000</td>
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<tr>
<td>Cherry Keating-Cherry Street Bridge North</td>
<td>14b</td>
<td>$ 34,500,000</td>
<td>$ 5,000,000</td>
<td>$ 3,500,000</td>
<td>$ 7,600,000</td>
<td>$ 700,000</td>
<td>$ 55,000,000</td>
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<tr>
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<td>14c</td>
<td>$ 25,000,000</td>
<td>$ 5,000,000</td>
<td>$ 3,500,000</td>
<td>$ 7,600,000</td>
<td>$ 700,000</td>
<td>$ 42,000,000</td>
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<tr>
<td>Commissioners Street Bridge/Don Roadway</td>
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<td>$ 27,000,000</td>
<td>$ 4,500,000</td>
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<td>$ 600,000</td>
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<tr>
<td>Lakeshore Road &amp; Rail Bridge Modifications</td>
<td>13</td>
<td>$ 11,000,000</td>
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<td>$ 1,900,000</td>
<td>$ 2,600,000</td>
<td>$ 200,000</td>
<td>$ 15,000,000</td>
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<tr>
<td>Old Cherry St. Bridge Demolition</td>
<td>14d</td>
<td>$ 2,500,000</td>
<td>$ 500,000</td>
<td>$ 400,000</td>
<td>$ 550,000</td>
<td>$ 50,000</td>
<td>$ 4,000,000</td>
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<tr>
<td>River Valley System</td>
<td>3</td>
<td>$ 35,500,000</td>
<td>$ 60,800,000</td>
<td>$ 46,500,000</td>
<td>$ 67,000,000</td>
<td>$ 6,400,000</td>
<td>$ 466,000,000</td>
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<tr>
<td>Don Greenway (Spillway &amp; Wetland)</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Keating Channel Modifications</td>
<td>16</td>
<td>$ 25,000,000</td>
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<td>$ 3,000,000</td>
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<td>$ 500,000</td>
<td>$ 35,000,000</td>
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<td>$ 35,000,000</td>
<td>$ 7,200,000</td>
<td>$ 5,700,000</td>
<td>$ 8,900,000</td>
<td>$ 800,000</td>
<td>$ 60,000,000</td>
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<tr>
<td>Don Roadway Valley Wall Feature</td>
<td>8</td>
<td>$ 17,000,000</td>
<td>$ 3,400,000</td>
<td>$ 2,600,000</td>
<td>$ 3,700,000</td>
<td>$ 300,000</td>
<td>$ 27,000,000</td>
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<tr>
<td>Eastern Avenue Flood Protection</td>
<td>12</td>
<td>$ 3,000,000</td>
<td>$ 600,000</td>
<td>$ 500,000</td>
<td>$ 800,000</td>
<td>$ 100,000</td>
<td>$ 5,000,000</td>
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<tr>
<td>East Harbour Flood Protection Leveeform</td>
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<td>$ 3,000,000</td>
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<td>$ 500,000</td>
<td>$ 800,000</td>
<td>$ 100,000</td>
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<td>$ 24,000,000</td>
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<td>$ 5,100,000</td>
<td>$ 500,000</td>
<td>$ 38,000,000</td>
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<td>$ 7,500,000</td>
<td>$ 10,800,000</td>
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<td>$ 28,000,000</td>
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<td>$ 3,250,000</td>
<td>$ 250,000</td>
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<tr>
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<td>$ 3,700,000</td>
<td>$ 300,000</td>
<td>$ 27,000,000</td>
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<tr>
<td>Promontory Park South</td>
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<td>$ 26,000,000</td>
<td>$ 5,500,000</td>
<td>$ 4,200,000</td>
<td>$ 5,700,000</td>
<td>$ 600,000</td>
<td>$ 42,000,000</td>
</tr>
</tbody>
</table>

$ 784,000,000 $ 157,000,000 $ 119,000,000 $ 173,000,000 $ 17,000,000 $ 1,250,000,000

Table 2 above includes the project costs for the Cherry Street Lake Filling Project ($65,000,000) which is proceeding under separate funding and a separate Capital Approval. Table 3 below details the total recommended Project cost of $1.185B which excludes the Cherry Street Lake Filling Project and is the basis for the calculation of the recommended soft cost budget and Capital Approval request contained herein.

As detailed in Table 3 below, the allowance for project soft costs was calculated based on applying a factor of approximately 20% to the estimated project construction costs ($743M X 20% = $149M). An allowance for cost escalation ($113M) and a risk contingency ($164M) to account for market and project risk were applied to both the hard cost estimate and the soft cost allowance to derive the project budget. Finally, a factor was applied to address the 1.76% portion of HST which cannot be recovered by Waterfront Toronto ($16M).
The portions of the escalation allowance, risk contingency and non-recoverable HST that are applicable to the soft cost allowances for each sub-project are provided in Table 4. As noted, the total soft cost budget established during the Due Diligence process, including escalation, risk contingency and non-recoverable HST equates to $198,473,722. Please refer also to Table 5 for a summary of those elements.

### Table 4

<table>
<thead>
<tr>
<th>Work Package Code</th>
<th>Project Component Numbering</th>
<th>Hard Cost Estimate</th>
<th>Soft Cost Allowance Average 20%</th>
<th>Escalation Allowance Average 12.6%</th>
<th>Risk Contingency Average 18.3%</th>
<th>Non-Recoverable HST Average 1.76%</th>
<th>Total Project Budget</th>
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<tr>
<td>2 Commissioners St. West to New Cherry St.</td>
<td>15a</td>
<td>$3,200,000</td>
<td>$289,800</td>
<td>$402,000</td>
<td>$164,700</td>
<td>$2,342,400</td>
<td>$1,262,700</td>
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<td>$113,400</td>
<td>$164,700</td>
<td>$20,735</td>
<td>$294,892</td>
<td>$17,062,092</td>
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<td>14a</td>
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<td>$113,400</td>
<td>$164,700</td>
<td>$20,735</td>
<td>$294,892</td>
<td>$17,062,092</td>
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<td>6 Hydro One Integration</td>
<td>18</td>
<td>$1,500,000</td>
<td>$189,000</td>
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<td>$34,158</td>
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<td>$340,358</td>
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<td>$69,115</td>
<td>$3,996,115</td>
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<td>$126,711</td>
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Total: $149,000,000 | 18,774,000 | 27,267,000 | 3,432,722 | 198,473,722
Table 5

<table>
<thead>
<tr>
<th>Due Diligence Soft Cost Estimate</th>
<th></th>
</tr>
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<tbody>
<tr>
<td><strong>Total Construction Cost Estimate</strong></td>
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<tr>
<td>Soft Cost Allowance</td>
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<tr>
<td>Soft Cost Escalation Allowance</td>
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<tr>
<td><strong>Base Soft Cost Allowance</strong></td>
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<td>Soft Cost Risk Contingency</td>
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<td>Soft Cost Budget, Including Contingency</td>
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<tr>
<td>Soft Cost Non-Recoverable HST</td>
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<td><strong>Total Soft Cost Budget &amp; Capital Approval Request</strong></td>
<td>$ 198,473,722</td>
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Soft Cost Capital Approval

Waterfront Toronto has estimated the total anticipated cost for professional consulting, project management, partner agencies and permits and approvals for the Project based on the defined scope and as detailed in Table 6 below. The current forecast soft cost is $175,451,889 as compared to the original Base Soft Cost allowance of $167,774,000 calculated during Due Diligence. The forecast includes fees which have been established through negotiation (e.g. MVVA, HDR, TRCA and Jacobs) and competitive procurement (Entuitive, WSP and Altus) and as well as estimations of soft costs which are forecast to be incurred at later stages of the project.
On June 21, 2017, Waterfront Toronto received Approval in Principal from the Government of Canada to begin planning and implementation for the Project. Work could only proceed subject to:

- Formal announcement of the project by the three orders of government on June 28, 2017
- The provision of interim funding by the City of Toronto secured through two delivery agreements:
  - Delivery Agreement #1 for $15.6 million executed on September 14, 2017
  - Delivery Agreement #2 for $24.4 million executed on January 15, 2018
- Board of Directors Capital Approval secured through three approvals
  - Capital Approval #1 for $10 million granted on March 27, 2017
  - Capital Approval #2 for $5.6 million granted on September 14, 2017

### Table 6

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Firm</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>River and Park Design</td>
<td>MVVA</td>
<td>$ 76,464,184</td>
</tr>
<tr>
<td>Project Management</td>
<td>Waterfront Toronto</td>
<td>$ 23,432,876</td>
</tr>
<tr>
<td>Bridges Design and Engineering</td>
<td>Entuitive</td>
<td>$ 14,395,726</td>
</tr>
<tr>
<td>Program Management</td>
<td>TBD</td>
<td>$ 10,416,117</td>
</tr>
<tr>
<td>Qualified Person Environmental Monitoring</td>
<td>Jacobs (CH2M)</td>
<td>$ 9,300,000</td>
</tr>
<tr>
<td>Roads and Utilities Engineering</td>
<td>WSP and DTAH</td>
<td>$ 8,709,000</td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>Jacobs (CH2M)</td>
<td>$ 6,950,000</td>
</tr>
<tr>
<td>Public Agencies</td>
<td>TRCA</td>
<td>$ 5,000,000</td>
</tr>
<tr>
<td>Geotechnical Investigations</td>
<td>GHD</td>
<td>$ 3,750,000</td>
</tr>
<tr>
<td>Environmental Investigations</td>
<td>Various</td>
<td>$ 3,750,000</td>
</tr>
<tr>
<td>Public Agencies</td>
<td>City Divisions</td>
<td>$ 3,000,000</td>
</tr>
<tr>
<td>Risk Management</td>
<td>HDR</td>
<td>$ 2,252,985</td>
</tr>
<tr>
<td>DMNP EA Monitoring</td>
<td>TRCA</td>
<td>$ 2,000,000</td>
</tr>
<tr>
<td>Consultation &amp; Engagement</td>
<td>Bespoke</td>
<td>$ 1,500,000</td>
</tr>
<tr>
<td>Cost Consultant</td>
<td>Altus</td>
<td>$ 716,000</td>
</tr>
<tr>
<td>Permits</td>
<td>TBD</td>
<td>$ 500,000</td>
</tr>
<tr>
<td>Building Demolition/Restoration Consulting</td>
<td>TBD</td>
<td>$ 500,000</td>
</tr>
<tr>
<td>Lease Terminations &amp; Relocations</td>
<td>WT</td>
<td>$ 500,000</td>
</tr>
<tr>
<td>Third Party Peer Review</td>
<td>TBD</td>
<td>$ 400,000</td>
</tr>
<tr>
<td>Long-term Monitoring</td>
<td>TBD</td>
<td>$ 400,000</td>
</tr>
<tr>
<td>Legal Services</td>
<td>TBD</td>
<td>$ 350,000</td>
</tr>
<tr>
<td>Marine Approvals</td>
<td>Aquatic Habitat Toronto</td>
<td>$ 315,000</td>
</tr>
<tr>
<td>Public Agencies</td>
<td>Create TO (TPLC)</td>
<td>$ 300,000</td>
</tr>
<tr>
<td>Capital Peer Review Panel</td>
<td>TBD</td>
<td>$ 250,000</td>
</tr>
<tr>
<td>Public Agencies</td>
<td>Ports Toronto</td>
<td>$ 100,000</td>
</tr>
<tr>
<td>Environmental Pilot Projects</td>
<td>Various</td>
<td>$ 100,000</td>
</tr>
<tr>
<td>Archeology/Heritage</td>
<td>TBD</td>
<td>$ 100,000</td>
</tr>
<tr>
<td><strong>Total Forecast Soft Costs</strong></td>
<td></td>
<td><strong>$ 175,451,889</strong></td>
</tr>
</tbody>
</table>
Capital Approval #3 for $24.4 million granted on December 7, 2017

The procurement of professional consultants and partner agency resources required to implement the planning, design and construction of the Project commenced on September 14, 2017 based on the secured $40 million in City Funding and Board of Directors Capital Approvals. Waterfront Toronto has now:

- Engaged consultants and third-party service providers through competitive procurement
- Negotiated contract extensions with eligible consultants or third-party service providers
- Engaged supporting partner agencies including CreateTO, and Toronto and Region Conservation, and
- Calculated internal resourcing requirements.

Table 7 illustrates how the escalation allowance and risk contingency is utilized to fund the current forecast of commitments and future costs within the original Soft Cost Budget of $198,473,722.

Table 7

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Soft Cost Allowance (Due Diligence Report)</td>
<td>$149,000,000</td>
</tr>
<tr>
<td>Escalation Allowance</td>
<td>$18,774,000</td>
</tr>
<tr>
<td>Original Escalated Soft Cost Allowance (Due Diligence Report)</td>
<td>$167,774,000</td>
</tr>
<tr>
<td><strong>Base Soft Cost Commitment Forecast (March 2018)</strong></td>
<td><strong>$175,451,889</strong></td>
</tr>
<tr>
<td>Forecast Variance (Soft Cost Allowance to Soft Cost Forecast)</td>
<td>$7,677,889</td>
</tr>
<tr>
<td>Allocated Soft Cost Risk Contingency (5.15% of Original Allowance)</td>
<td>$7,677,889</td>
</tr>
<tr>
<td>Unallocated Soft Cost Risk Contingency (13.15% of Original Allowance)</td>
<td>$19,589,111</td>
</tr>
<tr>
<td>Total Soft Cost Risk Contingency</td>
<td>$27,267,000</td>
</tr>
<tr>
<td>Non-recoverable HST</td>
<td>$3,432,722</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$198,473,722</strong></td>
</tr>
</tbody>
</table>

Management currently forecasts that the total soft costs for the Project will exceed the escalated soft cost allowance established during the Due Diligence process by $7,677,889. This amounts to 5.15% of the original soft cost allowance and is 28.2% of the soft costs risk contingency of $27,267,000.

Given that approximately 90% of the forecast soft cost expenditures for the Project have now been confirmed through negotiation or competitive procurement the balance of unallocated contingency $19,589,111 (13.15% of the original soft cost allowance) is sufficient to address future potential soft cost risk on the project.

We do note however that the costs of First Nations’ accommodation have not yet been determined and, when confirmed, will be drawn from the unallocated contingency.

Waterfront Toronto will submit a formal request for approval from the Port Lands Executive Steering Committee (“ESC”) on March 20, 2018 to approve the commitment of Capital for soft costs in the amount of $198,473,722. The status of the request to the ESC will be reported to the Board of Directors on March 29, 2018.
Details of the consulting commitments and agency agreements, as per Table 6, are described in the Procurement Process and Recommendations section.

Recommendation

Management recommends the following:

That capital investment of $198.5M be approved for the Portlands Flood Protection project soft costs, comprised of the following:

- The soft cost allowance in the amount of $149M
- The escalation allowance in the amount of $18.8M
- Risk contingency in the amount $27.3M (of which $7.7M is forecast to be utilized)
- Non-refundable HST in the amount of $3.4M

to allow for the commitment of project management, design and engineering, cost consulting, risk management, permits and approvals and ancillary soft costs related to the Project. The approval of the Board of Directors will be conditional upon execution of a Master Contribution Agreement in the amount of $1.185 billion, between the Government of Canada, The Province of Ontario, The City of Toronto and Waterfront Toronto.

Management advises that additional Capital Approvals will be necessary and will be requested from the Board of Directors as required to implement the completion of construction of all components of the Port Lands Flood Protection project. These additional Capital Approval requests will be made in compliance with the Capital Approval process.

Proposed Motion

ON MOTION duly made, seconded, and carried, be it RESOLVED that the Board of Directors approves:

The capital investment of $198.5M to allow for the commitment of project management, design and engineering, cost consulting, risk management, permits and approvals and ancillary soft costs related to the Project. Approval is granted subject to the execution of a Master Contribution Agreement in the amount of $1.185B, between the Government of Canada, The Province of Ontario, The City of Toronto and Waterfront Toronto.

Management advises that additional Capital Approvals will be necessary and will be obtained from the Board of Directors as required to implement the completion of construction of all components of the Port Lands Flood Protection Project. These additional Capital Approval requests will be made in compliance with the Capital Approval process.
Appendix

Project Risks

As part of Due Diligence Project, a risk identification and quantification were conducted resulting in creation of a risk simulation model and cost risk analysis assessment.

These risks include base cost uncertainty, the monetary impact of discrete risks as defined in the risk register plus escalation, as well as the monetary impact of schedule delays through extended overhead and additional escalation caused by schedule delays.

A risk assessment simulation model was developed employing industry best practice techniques and models that calculate the probability that the Project can be completed within a given budget. Methodology was utilized where specific event risks are identified and quantified instead of applying fixed percentages for unknowns. This risk-based approach is particularly appropriate for projects having few precedents or benchmarks. Traditional method of dealing with project unknowns, by applying an across the board single-value contingency factor, tend to more often under- or over-estimate the project cost by masking the critical uncertainty inherent to a particular project.

The total cost risk analysis results are presented in a form of probability distribution or “S-Curve” graph as illustrated in Chart 1 on the following page. The result yielded a high 90% probability that the Project will be delivered within the cost estimate.

The risk-based analysis approach provides for the development of a detailed list of specific risks related to specific project components. Each risk is then evaluated for potential and size of an impact to a Project cost (and schedule).

Chart 2 illustrates the top cost risks based on expected value of impact to the project. This “tornado” chart shows the expected value for each risk ranked in descending order, with the largest risks at the top of the diagram.

Risk names are listed along the vertical axis with the expected impact (in million $) of the risk shown along the horizontal axis.
Given the nature of impact some of the top risks impacting project costs are related to soft cost activities. Value engineering, design, reviews and regulatory approvals are identified and rated high and very high in the risk matrix.

Table 6 below illustrates risks identified in each category where soft cost categories represent 20% of overall risks related to the project.

**Table 6**

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Cost</th>
<th>Active Schedule</th>
<th>Inactive</th>
<th>Retired</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental &amp; Hydraulics</td>
<td>9</td>
<td>9</td>
<td>16</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Right-of-Way</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Utilities</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Design / PS&amp;E</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Structures &amp; Geotech</td>
<td>9</td>
<td>11</td>
<td>17</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>Partnerships and Stakeholders</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Management / Funding</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Contracting and Procurement</td>
<td>12</td>
<td>5</td>
<td>14</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>33</td>
<td>62</td>
<td>67</td>
<td>133</td>
</tr>
</tbody>
</table>

Relative to the Soft Cost budget a specific list of risks has been identified as expressed in the following Table 7.

**Table 7**

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Potential Impact</th>
<th>Mitigation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Treatment Facility Design</td>
<td>Risk that City insists on quality system being built upfront ($15M more). Modified facility would be 12mo in base; Quality system would add 12mo.</td>
<td>• Have discussions with the City about phased approach</td>
</tr>
<tr>
<td>Value Engineering &amp; Construction Review</td>
<td>Opportunity: Creative soil reuse, optimise the design to reduce duration, flexible land use and development.</td>
<td>• Schedule contractibility and value engineering reviews</td>
</tr>
<tr>
<td>Design Review Panel Delay</td>
<td>Panel may take longer to approve project design or required changes. Panel meets once a month – any adjustments can result in an additional month of delay.</td>
<td>• Keeping Panel informed of design as it is progressing will mitigate risk</td>
</tr>
<tr>
<td>Aggressive Design and Approval Schedule</td>
<td>Design schedule is compressed to meet constrained funding and constrained completion dates – there is a risk to not be able to meet schedule. Triggered by availability in funding.</td>
<td>• DFO review concurrent with design • Advance the design of the habitat</td>
</tr>
<tr>
<td>Risk aggregate below Threshold</td>
<td>Twenty-four (24) risks discussed fell below $1M or 1mo delay</td>
<td>• Continue to complete the design and update base estimate</td>
</tr>
<tr>
<td>Environmental Assessment Compliance and Amendments</td>
<td>Schedule delay due to having to change the approvals of environmental assessment. Design progression may trigger a minor or major env. amendment.</td>
<td>• Develop a list of red flag action items to share with designers. • Integrate overall construction phasing</td>
</tr>
</tbody>
</table>
CBRA Review and Acceptance Issues

The CBRA review has a history of experiencing delays of 6 to 12 months (in addition to base 12mo).

- Address any amendments in the later construction packages

Added consultation with agencies who are reviewing the documents

Environmental Permits Approval Issues

Environmental compliance approval (ECA) has history of up to 3 months delay from a base of 12 months

- Leverage pilot test approval process with MOECC and contractors and technology with existing ECA.

Change in Environmental Regulations

Risk that env. regulations change before approval in a way that negative impacts the project. Schedule delay and potential cost impacts due to different thresholds

- Monitoring and engagement with government. Plan to incorporate any potential changes into plan.

Public Realm Design Issues

Overlapping approvals of design and tender period before getting the permit assuming the permit would come. Two overlapping periods + tendering. Additional delays will occur

- Permit coordination to develop a schedule with City and Agencies (TPLC, Transportation, TPA, Parks, TRCA, etc.).
  - Underlying assumptions is to provide funding/resources to the City to expedite the permitting process.
  - Should be covered in the 20% soft costs.
  - Maintain float in schedule for park permits

Utility Conflicts in Design

Revisions to design due to utility conflicts / need for additional crossings. Toronto Hydro has a potential design risk in coordinating project design with their requirements.

- Proactively work with utilities & engaged with the City.
  - Looking to identify conflict areas and deal with them in advance.
  - Leave ROW for utilities on side in joint trench.

In addition, specific management risks relative to the procurement and management of consultants have been identified, and mitigation strategies developed as summarized in Table 8.

Table 8

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Potential Impact</th>
<th>Mitigation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fees proposed by proponents exceed budget</td>
<td>Available funding exceeded</td>
<td>• Maintain sufficient contingency (Approximately 20% allocated through due diligence)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Scope services for flexible addition/deletion, if required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prioritize Consulting services and defer if necessary</td>
</tr>
<tr>
<td>Additional services identified during project</td>
<td>Available funding exceeded</td>
<td>• Maintain sufficient contingency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Scope services for flexible addition/deletion, if required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prioritize Consulting services and defer if necessary</td>
</tr>
<tr>
<td>Additional consultant services identified and required</td>
<td>Available funding exceeded</td>
<td>• Maintain sufficient contingency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Scope services for flexible addition/deletion, if required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prioritize Consulting services and defer if necessary</td>
</tr>
<tr>
<td>Failed procurement (no suitable consultants identified)</td>
<td>Re-procurement and delay</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-------------------------</td>
<td>----</td>
</tr>
<tr>
<td>• Conduct industry briefing &amp; market sounding</td>
<td>• Prequalify consultants prior to request for proposal stage</td>
<td></td>
</tr>
<tr>
<td>• Probability of risk decreasing as consultants are engaged</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currency Risk</th>
<th>Available funding exceeded due to foreign exchange volatility</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Maintain sufficient contingency</td>
<td>• Pursue hedging strategies such as forward contracts to mitigate risk</td>
<td></td>
</tr>
</tbody>
</table>

Following identification and analysis of project risks, project managers and project teams are taking action in response to the identified project risks, focusing on risks of most significance, in order to shift the odds in favor of project success. The project team works from and maintains a list of risk and mitigation strategies to manage and contain potential project risks. As risk management is a continual process risk strategy is tracked and updated over time. This feeds directly into the risk management process.

The risk management steps include:

- Maintain risk register – record information for tracking and monitoring
- Identifying Risk Owners to take responsibility for key risk factors
- Maintain risk response strategies
- Identifying the Monitoring Frequency for risk updates
- Maintain feedback on the effectiveness of risk response strategies
- Conduct Quarterly task lead meetings to review action items and mitigation strategies
- Scheduling annual updates to the risk assessment model and results at key milestones or when base cost and schedules are updated; and
- Continuous updates to risk management plan
- Document and report progress

**Procurement Process and Recommendations**

Soft cost elements have been estimated and have or will be procured and contracted for the following ways:

1. Negotiation with key project consultants based on their selection through previous competitive procurements. Category includes Michael Van Valkenburgh and Associates Inc, CH2M/Jacobs Engineering and HDR Inc.
2. Negotiation and estimation of internal resources and partner public agencies staff costs and fees. Category includes Waterfront Toronto, TRCA, Ports Toronto, CreateTO (formerly TPLC), City of Toronto Engineering and Construction Services and Aquatic Habitat Toronto.
3. Portlands Flood Protection project-specific competitive procurements. Category includes WSP, Entuitive Corp., Altus Inc., the preferred outsource program management proponent in addition to numerous consultants and soft cost elements that remain to be procured.

The following summarizes the procurement process and consultant selection for procured services.

**River and Park Design - Michael Van Valkenburgh and Associates, Inc. ($76,464,184)**

Michael Van Valkenburgh and Associates were first retained in 2007 by Waterfront Toronto following the completion of an international design competition request for proposal. The brief sought a design for a water conveyance system that would address significant water flow from the Don River tributary
area generated by a major storm event. The request for proposal also provided for the selected proponent to be engaged through the ensuing stages of the project including the environmental assessment, detailed design and construction phases.

Michael Van Valkenburgh and Associates have worked with Waterfront Toronto on a continuous basis since 2007. They have been instrumental in developing the design tested through the Portlands Acceleration Initiative and the Due Diligence program, which serves as the basis for structural and flow modelling required to achieve flood protection goals as defined by Toronto and Region Conservation and the Ontario Ministry of Environment and Climate Change.

The technical challenges and learning curve for this project are significant. The combination of design and engineering elements are interwoven, made more complex through the regulatory challenges faced related to environmental and flood protection issues. Given these complexities, and in light of the imperative to advance project implementation and remain on time and budget, Waterfront Toronto determined that it was critical to retain key team members involved in the planning, design and Due Diligence program for this project. A Port Lands Flood Protection Peer Review completed by the Rijkswaterstaat (Room for the River) team from the Netherlands also determined that it was best to continue to work with Michael Van Valkenburgh and Associates in the design and ultimate implementation of this project.

With these goals and the outlined approach in mind, Waterfront Toronto moved forward with the negotiation of scope, services and related fees for Michael Van Valkenburgh and Associates. Waterfront Toronto utilized resources from our procurement, planning and design, and project management and construction teams to complete this process.

**Environmental Approvals Engineering – CH2M/Jacobs ($6,950,000)**

CH2M —Jacobs was originally retained by Waterfront Toronto in 2015 based on the completion of a public procurement process for the completion of earthworks and environmental consulting services for the Due Diligence project.

CH2M is a critical member of the project team related to both earthworks and for ongoing environmental works associated with the completion of the Port Lands Flood Protection Project.

Working in conjunction with Waterfront Toronto during the Due Diligence program, CH2M began the development of a unique environmental approvals plan for this project. As there is no permit process in Canada for the creation of a river where some 100 hectares are directly impacted by the flood protection project, CH2M has worked with Waterfront Toronto and the Ontario Ministry of Environment and Climate Change to implement a Community Based Risk Assessment process on this site.

Unlike conventional environmental processes which restrict contaminated soils movement to property boundaries, a Community Based Risk Assessment approach allows for soils to be excavated, moved, treated and placed across the overall work area. This is a complex and unique approach rarely used in the past for projects such as the Portlands Flood Protection Project.

As no permits are granted, the entire process requires deep engagement with the Ontario Ministry of Environment and Climate Change, the City of Toronto and Aquatic Habitat Toronto.

CH2M/Jacobs will complete the Community Based Risk Assessment process and will support detailed planning, oversight, monitoring and implementation of a jointly developed plan acceptable to the Ontario Ministry of Environment and Climate Change.
Waterfront Toronto (including our procurement, environmental and project management team) has negotiated fees and services required to address outsourced environmental works as required to complete this project.

**Risk Management and Quantification - HDR Inc. ($2,252,985)**

HDR was retained to provide risk management and assessment and risk quantification services through a competitive request for proposal process tied to the Due Diligence program. The request for proposal provided for the continuation of services through design and construction subject to successful negotiations with Waterfront Toronto.

After the completion of the Due Diligence program, HDR completed scheduling and risk workshops. Using Monte Carlo simulations, HDR determined the project contingency amounts to be carried in order to comply with Waterfront Toronto’s Board of Directors’ decision to meet a targeted 90% likelihood of achieving financial targets for the project.

Waterfront Toronto’s procurement and project management teams worked through contract negotiations with HDR Inc. and recommend engagement based on the scope and fees established through those negotiations.

**Roads and Municipal Services – WSP with DTAH ($8,709,000)**

Waterfront Toronto issued a request for proposal for design and engineering services based on concepts developed through the Due Diligence program. Waterfront Toronto’s procurement team led the request for proposal, supported by resources from Waterfront Toronto, Toronto and Region Conservation and the City of Toronto. WSP won based on a combination of team, scope, experience and fees.

Road design will be supported by Michael Van Valkenburgh and Associates. Road design will address pedestrian, vehicular and transit designs as well as associated public realm and will take phased transit implementation into account.

Servicing for the project is particularly complex as existing water and sewer (and all other utilities) will be materially impacted by the creating of the new river and spillway. New services will be sized to accommodate significant increases in built density, while services to remaining operational facilities at the west end of the Port Lands will need to remain operational to accommodate owners and occupants in those areas without disruption.

A services agreement has been negotiated with WSP for required services. Waterfront Toronto now requires the approval of the Port Lands Steering Committee and the Waterfront Toronto Board of Directors to fully mobilize WSP for project planning and delivery.

**Bridge Design and Engineering – Entuitive Corp. ($14,395,726)**

Waterfront Toronto issued a request for proposal for bridge design and engineering services based on scope developed in the completion of the Due Diligence program. The process was run by Waterfront Toronto’s procurement team and supported by resources from Waterfront Toronto, Michael Van Valkenburgh and Associates and the City of Toronto. A consortium led by Entuitive Corp. won based on a combination of team, scope, experience and fees.
Entuitive’s scope of work addresses new bridges planned for Cherry Street North (crossing the Keating Channel), Cherry Street South (crossing the new river mouth) and at Commissioners Street, crossing the new river at the east end of Villiers Island. Their work will address designs for full transit build out of those bridges, the transit component on the South Cherry Street and Commissioners Street bridges subject to separate funding.

Entuitive will also be required to design the bridge extension planned for the Lakeshore Road crossing of the Don River.

Waterfront Toronto, in cooperation with the City of Toronto, will work with Entuitive in the development of further options as needed to address the long-term plans for the Don River bridge, taking timing and construction limitations imposed by planned modifications to the Gardiner Expressway, including the ultimate removal of two ramps tying the Gardiner Expressway to Lakeshore Road, east of the Don River.

This contract provides for the consultant to either complete the documents to 100% as a design bid build project delivery, or to complete the documents to 30% as a design build project delivery. Final determination of the method of delivery will be determined once the design has been completed to 30%.

**Peer Review Cost Consultant – Altus Group ($716,000)**

Waterfront Toronto issued a request for proposal for cost consulting peer review services. The RFP was managed by Waterfront Toronto’s procurement team, supported by resources from Waterfront Toronto and the City of Toronto, Altus won based on a combination of team, scope, experience and fees.

Altus will compare and reconcile consultant and construction manager cost estimates to ensure consistency and accuracy and to verify unit rates and quantities, Altus will also undertake ad hoc review and critique of the contractors’ change notice pricing throughout the project.

**TBA - Outsourced Project Management Support ($10,416,117)**

Waterfront Toronto completed an internal review of project management staffing options and determined that a blend of internal personnel with outsourced partners would provide the resilient staffing needed to address project requirements. As part of the request for proposal requirements, proponents were asked to provide specialist engineering resources on call to address technical challenges as may arise. The budget carried for these services presumes that the preferred proponent will be awarded this contract subject to the finalization of scope and contract negotiations.

The program management consultant will provide team leadership (for their internal and partnered resources), project management and project coordination staff based on an agreed resource count and allocation. Management anticipates managing the preferred proponent’s resources as part of the broader Waterfront project management team assigned to this program.

**Soft Cost Estimates**

Within the overall soft cost budget, estimates have been completed and allowances have been established for the following additional soft costs:
- Waterfront Toronto project management and core support staff
- Capital Peer Review Panel
- Engagement with TRCA
- Engagement with Ports Toronto
- Engagement with TPLC (now CreateTO)
- Engagement with Aquatic Habitat Toronto
- TRCA Don Mouth Naturalization Project Environmental Assessment compliance monitoring
- City of Toronto Engineering and Construction Services resource availability
- Lease termination and tenant relocations
- Geotechnical and environmental site characterization and pilot testing
- Legal and Building Code Consulting
- Third party peer reviews
- Outsourced public engagement and communications support
- Permits and approvals
- Archeological / Heritage consulting as may be required
- Building Demolition consulting
- Other environmental monitoring (e.g. aquatic habitat)

The following provides a brief description of services, resources and costs assessed in the development of the foregoing estimates. In selected cases, allowance have been established based on previous project experience.

**Waterfront Toronto Project Management and Core Support Staff**

($23,432,876)

Waterfront Toronto has developed an internal staffing plan for the implementation of the project. Based on a staff count of 22, resources will be applied on an as required basis through to project completion. Waterfront Toronto will provide project management and design leadership, supporting project directors and project managers, executive oversight, finance and accounting, project controls and reporting, procurement and communications and public engagement resources.

In developing this model, Waterfront Toronto has considered the project scope, budget, schedule, reporting, financial management, risk management and public engagement requirements.

**Capital Peer Review Panel**

($250,000)

The Capital Peer Review Panel is proposed to be an independent advisory panel that will review project execution solutions, constraints, estimates, timelines and risks. The Panel will have an advisory role focussed on:

- validating that projects align with industry best practices;
- providing guidance to project team and Waterfront Toronto senior management and;
- providing information to Board of Directors.

Members of the Peer Review Panel will have senior expertise in Construction, Engineering, Procurement, Project and Risk Management. Potential affiliations for the panel members would include:

- Institutional
- Governmental
- Private Sector Contractors and Consultants
- Infrastructure Owners/ Investors
- Industry Organisations

**Engagement with TRCA**
($5,000,000)

TRCA has been engaged to provide project management and design support in a technical advisory capacity (including hydraulic modeling peer review, construction and fill management advisors (and information providers), ecological restoration advisor, brownfield analysis and review, LID and stormwater management review). In addition TRCA provide Floodplain Regulatory Oversight, permit acquisition support with other Agencies, broader City planning review, and provide archaeological and ecological monitoring services amongst numerous other services as required.

**Engagement with Ports Toronto**
($100,000)

Ports Toronto will need to arrange for various reviews, permits and approvals related to access, shipping and other works associated with the delivery of this project. We have established an allowance to address these requirements based on past experience in working with Ports Toronto.

**Engagement with CreateTO**
($300,000)

CreateTO is the City of Toronto agency responsible for the management of City-owned lands in the Port Lands Flood Protection site. The agency has requested site-by-site access agreements and continues to run parallel environmental works as the flood protection project moves forward.

Waterfront Toronto anticipates further costs associated with the ongoing engagement and coordination required with CreateTO through to project completion, and further work in the transitioning of properties to salable lands.

**Aquatic Habitat Toronto**
($315,000)

Engagement with Aquatic Habitat Toronto will be required on an ongoing basis through project planning and implementation. Aquatic Habitat Toronto serves as a pipeline to various government departments associated with required approvals for the project and has been effective in this capacity to date.

Funds allocated to this allowance with address meetings and consulting support as required.

**EA Compliance Monitoring**
($2,000,000)

Toronto and Region Conservation completes Environmental Assessment Compliance Reports on an annual basis, as required by the Ontario Ministry of Environment and Climate Change. Waterfront Toronto has established this allowance to address related costs over the next 6 years.
City of Toronto Engineering and Construction Services ($3,000,000)

The flood protection project will require significant design and approval input from the City of Toronto. To ensure that reviews and input are provided in a timely manner, the City will need to supplement internal resources to complete required work.

Based on our experience in working with the City on other major capital projects, we established an allowance based on projected resource demands.

Geotechnical and Environmental Pilot Testing ($100,000)

Waterfront Toronto has engaged several firms to complete pilot testing of possible environmental treatment technologies that might be considered for use in completion of the project. Testing continues and may require further work to determine value, cost and process.

Legal and Building Code Consulting ($400,000)

This allowance has been established to address legal and building code related issues which may arise in relation to planned project works. Permit requirements are limited to roads, servicing and bridges on this project.

Third Party Peer Reviews ($400,000)

As design and construction proceeds, Waterfront Toronto may wish to have a third-party peer review completed by third party specialists. Examples of related resources would be subject matter expert personnel provided through the outsourced program manager on an on-demand basis.

Outsourced Public Engagement and Communications ($1,500,000)

Waterfront Toronto’s internal staffing plan includes a limited amount of internal support staff for communications and public engagement. Our internal team has established a preliminary budget for costs associated with community and stakeholder consultations and communications.

Permits and Approvals ($500,000)

Waterfront Toronto has established this allowance to address permit costs as they arise through to project completion. The allowance is based on Waterfront Toronto’s experience in project delivery in Toronto.

Archeological / Heritage Consulting ($100,000)

We may discover artefact as excavation works move forward on site. Waterfront Toronto has established this allowance to support related consulting works should artefacts be found.
Building Demolition Consulting
($500,000)

The Flood Protection project contemplates the demolition and selective relocation of buildings on site. Waterfront Toronto has established this allowance to address consulting fees as may be required to implement these works.

Long Term Monitoring
($400,000)

Waterfront Toronto has established this allowance address other monitoring requirements as they arise as the project moves forward. Monitoring may be required to address dock wall conditions, remaining buildings, noise, contaminants and other matters.

Lease Termination and Relocations
($500,000)

Waterfront Toronto in conjunction with CreateTO has assessed the requirements for lease termination and relocation costs based on the current lease expiry and termination notice provisions contained in leases held by CreateTO. The majority of project work has been scheduled to allow for the natural expiry of existing leases and therefore termination and relocation costs are anticipated to be nominal.

First Nations Engagement

Waterfront Toronto recognizes that additional consultation, accommodation and engagement will be required with the Mississauga’s of New Credit First Nations however the extent of this accommodation is not yet defined nor was it contemplated or budgeted during the Due Diligence process.

The costs associated with accommodating the Mississauga’s of New Credit First Nations will be determined in consultation with all orders of Government and necessary funds will be drawn from the unallocated contingency.
### Agenda Item

**Item 11. b)iii Enterprise Risk Management and Internal Audit**

**Susie Henderson**

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Item 11.b)iii Board Meeting – March 29, 2018</th>
</tr>
</thead>
</table>
| **Purpose** | 1. To provide an overview of the Corporation’s enhanced risk management framework;  
2. To communicate the results of the independent Peer Review of management’s Project Governance Framework; and  
3. To communicate the results of the independent Peer Review of the Corporation’s Enterprise Risk Management Framework, Risk Register and resulting Internal Audit Plan. |
| **Key Message** | • The Corporation’s Enterprise-wide and Capital Project Risk Frameworks are in line with industry best practice, subject to some additional considerations.  
• At an enterprise level, it was noted that the cumulative exposure of multiple key risks is creating a vulnerability for the Corporation that should be managed through the mobilization of a change management function;  
• Based on the Risk Register, MNP, Waterfront Toronto’s internal auditors have proposed the following areas of audit scope for 2018/19:  
  o Cybersecurity; and  
  o Corporate Governance. |
| **Areas of note/Key issues** | Attached for reference are the following key reports, both of which have been reviewed by the FARM Committee with management:  
1. **Enhanced Governance & Risk Management Framework** (Waterfront Toronto January 25, 2018);  
   • Enterprise risk management (ERM) framework modelled on COSO (leading thought leadership body on ERM);  
   • Project governance framework based on the three lines of defense model (slide 14) and provides for:  
     i. Establishment of a Program Management Office (PMO) to streamline project lifecycle workflows and manage risk (slide 15); and  
     ii. Creation of a Peer Review Advisory Panel of experts with specific industry knowledge (slide 16).  
   • Results of Project Governance Peer Review process to ensure the framework is appropriate and meets or exceeds standards for comparable projects/organization (slide 17);  
   • Assessment of the pros and cons of establishing a separate Capital Risk Committee (slide 19).  
2. **Peer Review of Risk Register & Proposed Audit Plan** (MNP - March 8, 2018):  
   • Peer Review of Risk Register (slides 2-3 and Appendix A);  
   • Recommended Internal Audit Plan (slide 4 and Appendix B). |
| **Expected Outcome** | No Board action is required. |
| **Key Takeaways/Next Steps** | Management will begin providing a Quarterly Enterprise Risk Management dashboard report to FARM Committee and Board effective May 2018. |
Purpose

1. To provide the FARM Committee an update with respect to the Corporation’s **Enhanced Governance and Risk Framework** at both:
   - Enterprise level; and
   - Project level.

2. To respond to the FARM Committee Chair’s request that management provide an analysis of the pro’s and con’s of separating the FARM Committee into two Committee’s, namely:
   - FARM Committee; and
   - Capital Risk Committee.
Agenda

• Background
• FARM Committee Mandate
• Enterprise Risk Management Framework
• Project Risk Management Framework
• Board Risk Oversight – Governance Options
• Discussion
Background

• Operating in a more complex business environment driven by our two recent transformational projects – Port Lands and Quayside;
• Need to ensure that we have the appropriate governance and risk management framework in place to adequately manage risk.

*Enterprise risk management is a process,* effected by the entity’s board of directors, management, and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage and manage risk to be within the risk appetite, to provide reasonable reasonable assurance regarding the achievement of objectives.

*COSO’s Enterprise Risk Management – Integrated Framework*
FARM Committee Mandate

The role of the FARM Committee is to assist the Board of Directors in fulfilling its oversight responsibilities with respect to the following:

• Financial Reporting
• Internal Controls
• External and Internal Auditor appointments
• Government audits
• Financial Planning
• Enterprise Risk Management
• Project Risk Management
## FARM Committee Risk Responsibilities

<table>
<thead>
<tr>
<th>FARM Committee Risk Responsibilities</th>
<th>Currently Fulfilled As Follows:</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Enterprise Risk Management</strong></td>
<td>• Review of <em>Enterprise Risk Register</em> and report to Board.</td>
<td>Annually</td>
</tr>
<tr>
<td>The Committee will review with management significant matters involving the status of the Corporation’s enterprise risk management activities and make recommendations to the Board with respect to various material risks affecting the Corporation and the adequacy of the controls in place to identify, assess, manage and mitigate such risks.</td>
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<tr>
<td>2. <strong>Project Risk Management</strong></td>
<td>• Review of <em>Capital Approvals</em> for recommendation to the Board; • Review of <em>Project Cost, Schedule &amp; Risk Reports</em> (five projects).</td>
<td>As required. Quarterly</td>
</tr>
<tr>
<td>As outlined in the <em>Capital Approval Process Policy</em>, the Committee will review all projects and recommend to the Board those projects that require monitoring by the Committee. A project requiring monitoring may be defined as having many (if not all of) the following characteristics: • Budget valued in excess of $50 million; • High complexity and potential for many unknown risks; • Compressed timeline/schedule; • Self-insurance procurement model; • Multiple stakeholders; and high public profile. The Committee will provide independent monitoring with respect to project budget, scope and schedule.</td>
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</table>
Enterprise Risk Management Framework
Enterprise Risk Management Framework

- Waterfront Toronto has maintained an **Enterprise Risk Register** for over 10 years;
- The Risk Register is maintained by a cross-functional Enterprise Risk Management Taskforce, led by our Director, Financial Planning (CFO is accountable executive);
- Enterprise Risk Register includes risks with an organization-wide impact, including any major, material project risks.
- All identified risks are:
  - Identified and grouped into key categories such as Financial, Operational, Reputational;
  - Assigned risk owners and project managers to establish accountabilities for the ongoing management of risks;
  - Assessed and quantified in terms of impact, likelihood, and mitigation controls;
  - Ranked based on resulting inherent risk and residual risk levels, i.e. in terms of high, medium, and low risks.
- The Enterprise Risk Register:
  - Is reviewed by the senior management team;
  - Is presented and discussed with the FARM Committee and Board annually;
  - Forms the basis for the development of a risk-based internal audit plan.
- MNP are currently engaged to conduct a peer review of our risk register and risk assessment process and develop a two year risk-based internal audit plan;
- Waterfront Toronto is committed to continuous improvement in its enterprise risk management framework.
## Next Steps – Enterprise Risk Management

<table>
<thead>
<tr>
<th>FARM/Board Meeting</th>
<th>Agenda Item</th>
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<tbody>
<tr>
<td>March 8, 2018 - FARM</td>
<td>• Review of Enterprise Risk Register, including recommendations from MNP</td>
</tr>
<tr>
<td></td>
<td>• Review and approval of Internal Audit Plan</td>
</tr>
</tbody>
</table>
Project Risk Management Framework
Capital Project Governance involves the following:

- Creating an efficient project organization with clear lines of responsibility and defined roles
- Developing policies and procedures to guide consistent performance across the organization
- Implementing systems for collecting project execution data and reporting key performance indicators
- Deploying mechanisms that identify and mitigate performance risk
Proposed Project Governance Enhancements
Three Lines of Defense

Three Lines of Defense model is applied to project risk management by:

• Having a cohesive and proactive approach to identify, assess, mitigate, report, monitor and manage project risks

• Having a holistic and consistent approach to project risk management across the organization

• Providing appropriate coverage and identifying ‘blind spots’ which may not be identified

• Clarifying roles in each line of defense, from project management, control functions (i.e. program management offices), internal audit
**Best Practice – Lines of Defense Model**

**First Line**

**PROJECT DIRECTORS**
Project risks are identified, analyzed, owned and managed

- Own and manage project risks by implementing project controls including plans, schedules, budgets, etc.
- Risk owners are accountable for ensuring corrective actions are implemented to address project process and control deficiencies
- Project Director ensures that project risk management activities are consistent with project’s goals and objectives

**Second Line**

**PROGRAM MANAGEMENT OFFICE**
- Accountability for risk oversight through project risk assessment processes
- Coordinates risk reporting, escalation to third line and FARM
- Supports Project Directors by validating first line is properly designed and operating
- Monitors project risk management activities undertaken by Project Directors are consistent with project’s goals and objectives
- Receive risk information (scope, schedule, risk matrix, budget) to make timely decisions
- Defines, enforces and maintains standards and processes for project risk management
- Supports the organization in providing tools to manage new and merging project risks and effectiveness of project controls

**Third Line**

- Independent review through CAPITAL PEER REVIEW PANEL
- Provides subject matter expertize through support role to assist first line and second line in project risk management

- **INTERNAL AUDIT/RISK MANAGEMENT** function provides independent and objective assurance on project risk governance practices
- Assesses and monitors implementation of effective risk management practices
- Provides confidence that first and second lines of defense are operating effectively.

**WT Management**

**FARM**
Program Management Office

PMO Mandate
• PMO methodology and workflows
• Project governance and oversight – full lifecycle, every project
• Integrated reporting risks, financials, milestones and dependencies
• Peer relationships with WT VPs

PMO Roles & Responsibilities
• Manage project workflows – from new request to close-out
• KPIs - develop and monitor
• Facilitate elaboration of project plans, project documentation
• Manage projects scope, financial reviews and approvals
• Assist Finance group
• Work with VP Project Delivery
• Manage stage gate governance
• Assist audit review
## Capital Peer Review Panel

<table>
<thead>
<tr>
<th>Description</th>
<th>Capital Peer Review Panel</th>
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</thead>
<tbody>
<tr>
<td>Authority</td>
<td>Review, Advise, Recommend</td>
</tr>
<tr>
<td><strong>Role &amp; Responsibility</strong></td>
<td>Proposition: Independent advisory panel(s) reviewing</td>
</tr>
<tr>
<td><strong>Scope of Review</strong></td>
<td>- Capital Approvals (when Required)</td>
</tr>
<tr>
<td></td>
<td>- Quarterly Budget &amp; Schedule Reports</td>
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<td></td>
<td>- Quarterly Risk Update</td>
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<td></td>
<td>- Project Issues and execution status</td>
</tr>
<tr>
<td><strong>Members</strong></td>
<td>- Senior expertise in Construction, Engineering, Procurement, Project and Risk Management</td>
</tr>
<tr>
<td></td>
<td>- Institutional (e.g. UofT, Ryerson)</td>
</tr>
<tr>
<td></td>
<td>- Government (e.g. MoECC, RWS, IO)</td>
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<tr>
<td></td>
<td>- Private Sector (Contractors, Consultants – e.g. Van Oord, Boskalis, Arcadis)</td>
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<td></td>
<td>- Owner/Investor (e.g. Borealis, OTPP)</td>
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<td></td>
<td>- Industry Organisations (e.g. CCPPP CIFB)</td>
</tr>
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<td></td>
<td>- WT Board / FARM directors</td>
</tr>
<tr>
<td>Reports to</td>
<td>CPO and dotted line to Capital Risk Committee / FARM</td>
</tr>
<tr>
<td>Inputs (who)</td>
<td>VP Project Delivery via PMO provided materials</td>
</tr>
<tr>
<td>Outputs</td>
<td>Recommendation on options, level of completeness, risks management</td>
</tr>
<tr>
<td>Logistics</td>
<td>Formal reviews of Stage Gate Outputs – Risk, Cost, Schedule, Scope</td>
</tr>
<tr>
<td></td>
<td>Frequency – before FARM meetings – adhoc as needed</td>
</tr>
<tr>
<td></td>
<td>PMO governed process (schedule, materials, logistics)</td>
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</table>
Peer Review of Project Governance Process

**Participants:** *Projectus* is a specialised project management advisory service; *Rijkswaterstaat* is an assurance and advisory organisation.; *Rijkswaterstaat* is part of the Dutch Ministry of Infrastructure and the Environment.

**Independent review** conducted to ensure alignment with industry best practices and to provide improvement recommendations

- Key personnel interviewed ensuring various stakeholders expectations are factored in recommendations
- Members of the Board of Directors interviewed to ensure the Board’s risk appetite is aligned with a proposed framework
- Workshops conducted including a review of WT overall internal processes, construction and contractor management and project organisation structure, stage gate process, controls and reporting

**Key Findings**

**Positive remarks**

- Internal staff has a lot of experience, is agile and able to adjust to the needs of projects
- The strategy, balancing between flexibility in budget and in time is good
- Future asset managers (e.g. TRCA) are actively involved, which is very good.
- WT has open and trustworthy administrative style.

**Future Considerations**

- Empower PMO with authority and responsibility not just governance (employ tools and procedures)
- Predetermine number of releases of government funds – simplify the process
- Budget contingency – determine what is held back e.g. on program level vs project level
- Safety and risk management – consider dedicated risk manager resource
<table>
<thead>
<tr>
<th>Option</th>
<th>Pros</th>
<th>Cons</th>
</tr>
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</table>
| 1. **FARM Committee**  
FARM Committee is responsible for both enterprise & project risk oversight to the Board. | • Responsibility for risk management is maintained through one, seamless Committee;  
• Ability to understand impacts of capital risk on entire enterprise;  
• Utilize relationship with new Capital Peer Review Panel. | • This is a heavy workload burden for one Committee;  
• Committee members may not have adequate time and/or expertise to dedicate to matters of particular technical risk. |
| 2. **Capital Risk Committee**  
The overall responsibility for project risk governance is delegated by the board to a separate Capital Risk Committee.  
FARM Committee retains responsibility for enterprise risk to the Board. | • FARM Committee can prioritize focus on fiscal responsibilities of organization, as opposed to being burdened with capital risk oversight;  
• Capital Risk Committee can focus on individual project risks and reporting;  
• Aligns with industry best practices for oversight of mega capital projects;  
• Capital risk governance requires technical expertise. | • Capital Risk Committee will require development of a mandate and nomination of new members to the committee;  
• Additional cost of up to $20,000 p.a. (member fees);  
• Two separate committees responsible for risk reporting to Board may be confusing;  
• Potential additional layer of reporting for executive management and project management office, however this could be streamlined. |
| 3. **Capital Risk Sub-Committee**  
Acts as an advisory committee to FARM Committee to provide greater level of oversight on management of capital projects.  
FARM maintains risk oversight to the Board. | • Same benefits as under option 2, and FARM gains greater understanding of capital risk and impacts on enterprise risk;  
• Alleviates much of the cons under option 1. | • Same as option 2.  
• Would require some commonality of membership with FARM (workload); |
Discussion

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https://www.youtube.com/user/WaterfrontToronto
https://www.facebook.com/WaterfrontToronto
https://www.linkedin.com/company/waterfront-toronto
https://twitter.com/WaterfrontTO
Waterfront Toronto

Peer Review of Risk Register & Proposed Audit Plan

March 8, 2018
• Risk Register (list of risks) has been reviewed and validated through interviews, workshops and comparisons with best practices
  o Inventory of risks reflects the range of issues facing the Corporation
  o Assessment of risk reflective of current state based on staff expertise and experiences
  o Mitigation of key risks reasonable, aiding the reduction of exposure
  o A summary of the Risk Register can be found in Appendix C, included as a confidential attachment

• Updates were made to tools and documentation
  o Enhanced usability and manageability
  o More reflective of current process

• Several improvement opportunities were noted (further details available in Appendix A)
  o Enhance analysis of risk interactions (i.e. cumulative outcome of risks)
  o Align corporate risk and project risk processes
  o Increase efficacy of assessment (specifically accuracy and precision)
  o Establish escalation criteria
  o Determine ‘acceptability’ of risks (e.g. appetite and/or tolerance)
Cumulative Exposure of Key Risks

- Cumulative exposure (or interaction) of multiple key risks is creating a vulnerability, leading to a potential for:
  - Executive Team being overwhelmed → potential for departure of key leader
  - Organisational resilience being weakened → potential for failure on any of 11 ongoing organizational initiatives
  - Lack of capacity to effectively manage change → increased probability not transitioning to the vision of Waterfront 2.0
  - Lack of bandwidth on multiple complex and high profile projects → increased probability missing project milestones

- There is a need to complete strategic planning, support HR capacity building, and strengthen change management capability
  - Complete update of the 5-year Strategic Plan to clarify future state vision of Waterfront Toronto 2.0
  - Bolster HR on-boarding to fill vacancies and strengthen capabilities
  - Mobilize a change management function to support transformation of Waterfront Toronto
    - Manage the risks of changing the business while at the same time delivering large complex projects
    - Change readiness to identify gaps
    - Develop a road map of activities (who/what/why/when)
    - Ongoing support for project, core support, and Executive teams
    - Measure and track change progress

Noted Ongoing Organisational Initiatives

1. New ERP system
2. 35 New Hires
3. New PMO Function
4. Office Space Expansions
5. Technology Investments
6. Market Salary Adjustments
7. Organizational Performance Measurement and Reporting Framework
8. Enterprise Content Management Strategy
9. 5 Year Business Plan
10. Creation of a Diversity & Inclusion Program
11. Restructuring and Streamlining of Board Sub Committees
Based on the refined risk register, a proposed inventory of future audits has been developed (adjacent table)

- Audit plan includes key risk areas, and considered ongoing initiatives and past audit areas
- Timing and sequencing of audits to be determined based on discussions with management

Other audits were considered for inclusion on the audit plan, however these were not selected for the following reasons:

- HR Capacity Plan audit to be deferred due to the implementation of a Chief Operating Officer (COO) to aid in the management of organisational change and continuing delivery of mandate
- ERP Implementation and broader ERP Internal Controls audits considered, but deferred as other parties are set to audit these areas

### Period | Audit Area | Proposed Audit Scope
---|---|---
Q2 18/19 | Cybersecurity | To assess the design and operating effectiveness of WT’s IT security program / strategy / framework, (including processes and controls) relating to cybercrime prevention, detection and incident response.
Q4 18/19 | Corporate Governance | To assess WT’s governance structure (i.e. committees, board, etc.). Particular focus will be placed on assessing: alignment with operational model; alignment with strategic direction; and alignment with public sector standards and best practices.
Q2 19/20 | Project Management Process Controls | To assess business processes and controls within the Project Management Information System (PMIS) functions of the ERP and the related processes performed by the Project Management Office (PMO). Particular focus will be placed on how the project management functions will serve WT in upcoming years, with regards to: Design and operating effectiveness of controls; Efficiency and effectiveness of process workflow against best practices; Key ERP system reports are reliable (i.e. complete and accurate); Key application functions and reporting perform as expected and meet defined business processes.
Q4 19/20 | Procurement | To assess procurement processes and controls in order to determine if procurement processes are in conformance with applicable procurement directives and policies of the various levels of government.

**Audits Considered – NOT Proposed**

| Period | Audit Area | Proposed Audit Scope |
---|---|---|
N/A | HR Capacity Plan | To assess the 2018/2019 HR Capacity Plan by reviewing the management control framework in place for developing and implementing integrated human resources plans that aim to help successfully deliver on WT's strategic objectives. |
N/A | ERP System Implementation | To assess the effectiveness of key controls and related system implementation and data migration activities. |
N/A | ERP System Internal Controls | To assess selected business processes and controls within the ERP system (within selected in-scope areas of CRM, HRIS, accounting/finance). |

*Refer to Appendix B for details*
Scope

• Peer review of Waterfront Toronto’s enterprise risk register and development of a two-year internal audit plan

Objectives

• Review and provide recommendations on the comprehensiveness and reasonableness of Waterfront Toronto’s corporate risk register and mitigation plan

• Develop and implement a corresponding two-year internal audit plan comprising core risk areas

Process

• To facilitate the Peer Review of the Risk Register, MNP:
  o Reviewed key documentation
  o Facilitated interviews with key staff, including Risk Taskforce and Executive Team
  o Conducted review of inventory of risks considering best practice
  o Facilitated validation workshop with Risk Taskforce and Executive Team
  o Developed report, with observations and improvement opportunities
  o Validated report with management
Below are specific observations on the ERM process at Waterfront Toronto; information is organized into three categories (people, process and system)

**People**

- **Observations**
  - Risk Taskforce has cross-departmental representation, allowing for various perspectives on risk items
  - Executive Team involved in risk identification, assessment and treatment
  - Noted lack of formal training for the members on the risk management process and best practices

- **Opportunities for Improvement**
  - Facilitate formal training for the Risk Taskforce and Executive Team on ERM

**Process**

- **Observations**
  - Current approach utilizes information from various sources (through the Risk Taskforce) which is validated by Executive Team
  - Inconsistent application of the assessment criteria (probability/consequence) that was documented in the ERM Framework during the assessment
  - Current lack of formal consideration for risk interaction (i.e. cumulative outcome), acceptability of risk or the escalation requirements for risks
Process cont.

- Opportunities for Improvement
  - Review the assessment criteria to ensure it is reflective of the current state of the Corporation
  - Develop formal training for the Risk Taskforce and Executive Team on ERM
  - As data becomes more easily available through the enhancement of systems, work to integrate such information to enhance both the accuracy and precision of assessment
  - Establish the practice of – and tools for – assessing risk interactions
  - Consider documentation of risk appetite and/or risk tolerance
  - Consider documentation of thresholds for the escalation of risk

System

- Observations
  - Risk Register tool includes appropriate fields
  - Risk Register does not currently include appropriate Project-specific risks, as PMO and Expert Panel structure is not fully implemented
  - Report format for FARM/Board reasonable, but may need to be enhanced with future change

- Opportunities for Improvement
  - Utilize information from the PMO and the Expert Panel to include/report on appropriate risk items in Corporate Risk Register (once available)
  - Review report format as ERM enhancements are made
<table>
<thead>
<tr>
<th>Period</th>
<th>Audit Area</th>
<th>Division</th>
<th>Risk Description</th>
<th>Proposed Audit Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2 18/19</td>
<td>Cybersecurity</td>
<td>I&amp;IT</td>
<td><strong>I&amp;IT Security:</strong> The risk that WT is unable to manage an IT security breach, resulting in possible loss of corporate/financial/personal information and reputational impact. <strong>MEDIUM</strong></td>
<td>To assess the design and operating effectiveness of WT’s IT security program / strategy / framework, (including processes and controls) relating to cybercrime prevention, detection and incident response.</td>
</tr>
<tr>
<td>Q4 28/19</td>
<td>Corporate Governance</td>
<td>Enterprise-Wide</td>
<td><strong>Organizational Resilience:</strong> The risk that WT is unable to prepare for, and respond to, the increase in scale and scope of projects (including, but not limited to, adequate resources, structure and processes), resulting in an inability to deliver on key strategic objectives. <strong>HIGH</strong> <strong>Corporate Governance:</strong> The risk that WT’s governance structure, principles and operations are not working effectively, resulting in impacts to decision-making, accountability and transparency. <strong>HIGH</strong></td>
<td>To assess WT’s governance structure (i.e. committees, board, etc.). Particular focus will be placed on assessing: • Alignment with operational model; • Alignment with strategic direction; • Alignment with public sector standards and best practices; • Specific issues of concern with the current governance structure. A review will also be performed on the WT Organizational Resilience Plan as it was identified as a key mitigation to address this risk area.</td>
</tr>
<tr>
<td>Q2 19/20</td>
<td>Project Management Process Controls</td>
<td>Project Management Office (PMO)</td>
<td><strong>Management of Systems, Processes &amp; Information:</strong> The risk that WT is unable to produce accurate and timely financial reports, resulting in impacts to decision-making, accountability and transparency. <strong>HIGH</strong></td>
<td>To assess business processes and controls within the Project Management Information System (PMIS) functions of the ERP and the related processes performed by the Project Management Office (PMO). Particular focus will be placed on how the project management functions will serve WT in upcoming years, with regards to: • Design and operating effectiveness of controls; • Efficiency and effectiveness of process workflow against best practices; • Key ERP system reports are reliable (i.e. complete and accurate); • Key application functions and reporting perform as expected and meet defined business processes.</td>
</tr>
<tr>
<td>Q4 19/20</td>
<td>Procurement</td>
<td>Finance &amp; Administration</td>
<td><strong>Procurement - Compliance:</strong> The risk of non-compliance with procurement policy, resulting in public scrutiny or litigation. <strong>MEDIUM</strong> <strong>Procurement - Tendering:</strong> The risk that WT is unable to effectively procure suppliers, resulting in project delays or objectives not being met. <strong>LOW</strong></td>
<td>To assess procurement processes and controls in order to determine if procurement processes are in conformance with applicable procurement directives and policies of the various levels of government. Particular focus will be placed on assessing whether: • Procurements are conducted following the principles of value for money, vendor access, transparency, and fairness; • Controls are in place to enable efficient and effective delivery of procurement activities; • Roles and responsibilities of all parties involved in the procurement process are defined and understood by all parties; • Mechanisms are in place to help mitigate risks comply with procurement directives and policies; • Procurement process requirements (as dictated by legislation/directives/policies) and best practices are clearly defined and followed.</td>
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<tr>
<td>Audit Area</td>
<td>Division</td>
<td>Risk Description</td>
<td>Proposed Audit Scope</td>
<td>Additional Comments</td>
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| HR Capacity Plan    | Enterprise-Wide           | **Organizational Resilience**: The risk that WT is unable to prepare for, and respond to, the increase in scale and scope of projects (including, but not limited to, adequate resources, structure and processes), resulting in an inability to deliver on key strategic objectives. **HIGH** | To assess the 2018/2019 HR Capacity Plan by reviewing the management control framework in place for developing and implementing integrated human resources plans that aim to help successfully deliver on WT’s strategic objectives. Particular areas of focus for the assessment of the plan will be:  
- Strategic Direction;  
- Risk Management Objectives;  
- Planning Methodology;  
- Resource Allocation;  
- Integration and Monitoring.                                                                                                                                                                                                 | We understand that WT is working to address the organization’s resilience, HR Capacity Plan, and the recruitment and retention of employees. Since WT is in the process of taking immediate action on this matter, this audit has not been included within the audit plan. |
| ERP System Implementation | Enterprise-Wide           | **Recruitment & Retention of Employees**: The risk that WT is unable to recruit and/or retain key staff, resulting in an inability to deliver on key strategic objectives. **HIGH** | To assess the effectiveness of key controls and related system implementation and data migration activities. This includes assessing and evaluating the following:  
- A system implementation methodology was followed when implementing the ERP;  
- Tests and reconciliations were performed to provide reasonable assurance that (a) legacy data was completely and accurately converted; and (b) legacy data was completely and accurately uploaded into the new system; and,  
- Security controls are implemented on the new system, including passwords, user access administration, privileged accounts, segregation of duties, and at the outsourced service provider. | The City of Toronto and WT’s External Auditor are likely to conduct a similar engagement to this ERP system implementation audit, thus this audit is not included on the audit plan to not duplicate work. |
| ERP System Internal Controls | I&IT, Finance & Administration | **Management of Systems, Processes & Information**: The risk that WT is unable to produce accurate and timely financial reports, resulting in impacts to decision-making, accountability and transparency. **HIGH** | To assess selected business processes and controls within the ERP system (within selected in-scope areas of CRM, HRIS, accounting/finance). Particular focus placed on:  
- Design and operating effectiveness of controls;  
- Efficiency and effectiveness of process workflow against best practices;  
- Key system reports are reliable (i.e. complete and accurate);  
- Key application functions and reporting perform as expected and meet defined business process. | WT’s External Auditor may conduct a similar review or selected procedures of ERP system processes and controls, thus this audit is not included on the audit plan.  
The PMIS function in the ERP system and the related processes followed by the PMO has been proposed by MNP in the above plan, ensuring that this high risk area is included in the audit plan. |