<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Item 6, Finance, Audit &amp; Risk Management (FARM) Committee, March 8, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>For the FARM committee to be informed on details of enhancement measures to WT project management framework.</td>
</tr>
<tr>
<td>Key Message</td>
<td>Details of establishment of Capital Projects Peer Review Advisory Panel</td>
</tr>
</tbody>
</table>
| Areas of note/Key issues | Waterfront Toronto is currently implementing measures to further enhance its project risk management framework, including the establishment of:  
  a. A new Enterprise Resource Planning ("ERP") system  
  b. A Program Management Office (PMO) to streamline project lifecycle workflows and manage risk; and  
  c. Capital Peer Review Panel  
  
  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 focused 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 Capital 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  
  - Owners/ Investors  
  - Industry Organizations  
  
  Capital Peer Review Panel will review project Capital Approval documentation (Budget, Schedule, Risk) at appropriate project stage gates and prior to presentation to the Executive Steering Committee and Waterfront Toronto Finance, Audit and Risk Management Committee in accordance with the project Stage Gating process. |
| Expected Outcome | No action required |
| Key Takeaways/Next Steps | WT management to complete the Capital Peer Review Panel creation process including development of appropriate corporate policies and panel's By-Laws. |
Introduction

The Port Lands Flood Protection and Enabling Infrastructure Project ("Port Lands Project") is a comprehensive plan for flood protecting the southeastern portion of downtown Toronto – (including parts of Port Lands, South Riverdale, Leslieville, south of Eastern Avenue and the First Gulf/Unilever development site) – that are at risk of flooding as defined in provincial Regulatory Storm event. As a result, these areas are effectively undevelopable and economically underutilized until the flood risk is removed.

The Port Lands Project’s primary focus is delivering flood protection infrastructure integrated with improved natural habitat and public open spaces in order to enable development. The Project also includes new and modified municipal and marine infrastructure that is necessary to maintain transportation and servicing networks and enable construction of flood protection components.

Key Conclusions

1. Approvals related to Capital Project costs and investments, changes in project scope and utilization and allocation of contingency funds will be sought through the Executive Steering Committee. Executive Steering Committee approvals will be obtained in advance of approvals through Waterfront Toronto’s Board of Directors and Board sub-committees. For time-sensitive items, staff will seek approvals from the Executive Steering Committee and Board sub-committees concurrently.

2. The Capital Peer Review Panel will meet on a bi-monthly basis to review project Capital Approval documentation (Budget, Schedule, Risk) at appropriate project stage gates and prior to presentation to the Executive Steering Committee and Waterfront Toronto Finance, Audit and Risk Management Committee.

3. The total Project escalation allowance established during Due Diligence was calculated to be 10% or $119 million (Refer to Due Diligence report pages 75 through 83). Approved sub-project budgets will include an escalation allowance in the amount of 10% which will be available to and be managed by the project team.

4. The total Project risk contingency established during Due Diligence was calculated to be 20% or $173 million (Refer to Due Diligence report pages 75 through 83). Approved sub-project budgets will include a risk contingency drawn from the $179 million. The sub-project risk contingency amount will be determined by the project team (in consultation with the Executive Steering Committee and WT FARM Committee) either through the Risk Mitigation and Quantification process or through standard industry benchmarking.
   a. 1/3 of the risk contingency (to a maximum of 7% of the sub-project budget) will be available to the project team to be used to fund non-discretionary project changes on a sub-project basis
   b. 2/3 of the risk contingency (to a maximum of 13% of the project budget) will be available to Waterfront Toronto senior management for discretionary and/or non-discretionary project changes on a sub-project and Portlands Flood Protection program-wide basis
c. All discretionary project changes in excess of $1 million will be presented to the Port Lands Flood Protection Executive Steering Committee for acceptance prior to implementation

5. Utilization of the 10% or $5 million (whichever is less) Board of Directors Capital Approval contingency will require approval of the Port Lands Executive Steering Committee and be subject to the availability of funding

6. Project contingency will be re-quantified on a quarterly basis and will be released to the Portlands Flood Protection program contingency when appropriate

Governance and Oversight

The scale of the Port Lands Flood Protection project has triggered the need for a review of governance and decision making by the government partners and the need for Waterfront Toronto to review of some of its internal governance processes, tools and structure.

Since the three orders of government are accountable for the expenditure of government funds with respect to the Project, Waterfront Toronto now reports project progress to the Port Lands Executive Steering Committee (ESC).

The mandate, role and responsibility of the Executive Steering Committee has been established and approved through the Intergovernmental Steering Committee. Specific requirements for reporting to and obtaining input and approvals from the Executive Steering Committee through a Stage Gate process have been developed and are documented below, consistent with the Executive Steering Committee’s governance mandate as illustrated in the following chart.

Conclusion:

1. Approvals related to Capital Project costs and investments, changes in project scope and utilization and allocation of contingency funds will be sought through the
Executive Steering Committee. Executive Steering Committee approvals will be obtained in advance of approvals through Waterfront Toronto's Board of Directors and Board sub-committees. For time-sensitive items, staff will seek approvals from the Executive Steering Committee and Board sub-committees concurrently.

To ensure that structure stays current and applicable to changing delivery conditions, and at the request of Waterfront Toronto’s Board of Directors and Government Stakeholders, Waterfront Toronto has developed an Organizational Resiliency plan and enhanced Risk Management and Delivery Framework for both enterprise-wide and capital projects. This plan and framework are described in the following report.

Organizational Resiliency

The primary goal of Waterfront Toronto’s Organizational Resiliency initiative is to address the following critical success factors:

- Continuity of project leadership, strategy and direction
- Leveraging partner agency and professional consulting resources via outsourcing strategy
  - Application of project related experience (large complex civil infrastructure programs)
  - Recruitment and preservation of sufficient, qualified project staff through entire project
  - As-required availability of variable project management support resources
- Enhanced focus on risk management
- Enhancement to internal processes and toolsets

Project team organisation and staffing

To achieve the foregoing Waterfront Toronto staff will provide continued project governance, project leadership, strategy and direction, stakeholder relations, vendor management and core support services (including finance and accounting, soil and groundwater approvals, project procurement, project controls and land use planning).

Waterfront Toronto will continue to employ an outsourcing strategy to deliver many of the necessary project services. Tasks and functions that will be outsourced (partially or in total) include, but may not be limited to:

- Architecture and engineering
- Program management, coordination and reporting
- Risk management
- Health and safety
- Estimating and scheduling
- Construction procurement
- Consultation and public engagement logistics
- Legal services

This strategy will reduce the number of qualified full time equivalent staff that will need to be recruited by Waterfront Toronto and facilitate the continuity of staffing through to project completion.
Internal Staffing Structure (Functional)

Waterfront Toronto

- Senior Project Executive Team
  - Vice President, Project Delivery
  - Project Directors (3) have been hired
  - Project management staff recruitment underway with new hires to be in place after April 1, 2018

- Core Support Services
  - Planning and Design
  - Waterfront Toronto Management and Executive Team
  - Finance and Accounting
  - Project Management Office and Project Controls
  - Consultation and Public Engagement
  - Procurement
  - Legal
  - Soil and Ground Water Management and Brownfield Approvals
  - First Nations engagement and accommodation

Outsourced (External) Staffing Structure (Functional)

Toronto Region Conservation

- Project Management and Design Support Teams with technical advisory support role (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)
- Floodplain Regulatory Oversight, permit acquisition support with other Agencies, broader City planning review
- EA Co-proponent including lead on EA Compliance Review and Reporting
- Provide archaeological and ecological monitoring services as required.
- Advisory role on First Nations engagement and Public Communications
- Possible sub-contractor role for the ecological restoration (to be determined through the upcoming integrated design process)
- Future land ownership, maintenance agreements and operational input - active co-lead on various ownership and maintenance agreements required with the various agencies related to the river maintenance, operations and easements
- Integrating Other Major Projects with Don Mouth - provide agency support and advisory role in the integration of project planning with the large-number of other Projects immediately within the River Project area. Hydraulic validation
- Hydraulic validation
- EA status reporting

Create TO (Toronto Portlands Company)

- Tenant relations
- Property access
- Dock wall modifications
- Environmental approvals support
Ports Toronto

- Access
- Navigation

Outsourced Program Management Consulting Firm

- Why
  - Variable Staff
  - Availability of qualified staff
  - General and administrative efficiency (office space, furniture, technology)
  - Succession and back-up

- What
  - Day to day project management
  - Project Reporting
  - Document management
  - Change management
  - Contract management
  - Invoice approval

- Where
  - On-site and/or co-located with Waterfront Toronto project management team

- Who
  - Program Management service provider with experience in $1B + infrastructure delivery

- How
  - Competitive Procurement
  - Market based solution and fees

- Status as at February 20, 2018
  - Concurrent negotiations are underway with two shortlisted respondents (7 submissions received). Preferred proponent to be selected by March 1, 2018.

Professional Consultants

- Landscape Architecture (Michael Van Valkenburg Associates)
  - Archaeologist
  - Heritage consultant
  - Hydrological engineer
  - Ecologist
  - Code Consultant
- Bridge Design and Engineering (Entuitive)
- Roads and Services Design and Engineering (WSP)
- Environmental Engineering (Jacobs)
- Geotechnical Engineering (GHD)
- Cost Consulting (Altus)
- Risk Management (HDR)
- Consultation and public engagement logistics (Bespoke)
• Legal

**Construction Manager (Ellis Don Civil Construction)**

• Preconstruction services
  • Cost estimating
  • Scheduling
  • Constructability reviews
  • Procurement (tender packages, prequalification, long lead materials and equipment orders, labour, sub-contractor)
  • Value engineering

• Construction Services
  • Health and Safety (Constructor)
  • Site Logistics
  • Construction scheduling
  • Sub-Contract Management
  • Quality control
  • Reporting
  • Change management

• General requirements including:
  • Site office compound
  • Staffing
  • Hoarding and signage
  • Temporary utilities
  • Field engineering (surveying)
  • Drawing reproduction
  • Insurance and bonding
  • Community relations and communications
  • Traffic management

• Construction means and methods

**Staffing Structure (Hierarchy)**

The organization chart on the following page graphically illustrates the communications, authority and reporting hierarchy of the project governance structure and project management team. Positions identified in light blue boxes represent Waterfront Toronto staff while those in dark blue boxes represent the outsourced program manager staffing. The number and function of the outsourced program manager positions will be determined through the program manager procurement based on the proposals submitted by the private sector respondents. Boxes shown in red reflect government oversight and governance.

The full project team organization including core Waterfront Toronto support services, professional consulting and construction management as described above has been included as Appendix A.
Risk Management

Waterfront Toronto has commenced a process improvement initiative to supplement and reinforce its existing risk management and project governance processes, procedures and technology. Waterfront Toronto’s current risk management and governance frameworks are contained within Board Approved Finance processes and procedures including:

- Capital Approval Process Policy
- Delegations of Authority
- Financial Planning and Reporting Framework

These documents have been attached as Appendices B, C and D.
Financial Planning and Reporting Framework covers two aspects of risk management. Both Enterprise and Project specific risks are formally reviewed by the Finance, Audit and Risk Management (FARM) committee of the Board of Directors. Agenda’s minutes and reports to the FARM Committee and Board of Directors are available on-line 7 days prior to the meetings. Significant approvals granted by the FARM Committee and Board of Directors will be reflected in monthly reporting provided by the project team.

The above mentioned Corporate policies and frameworks also cover Core Program Management Processes (in part):

- Project Delivery
- Estimating and Budgeting
- Risk Management
- Contract Management
- Change Management

**Waterfront Toronto Risk Management Internal Processes (Stage Gate Process)**

The following is a summary of the overarching risk management and governance structures and processes currently employed by Waterfront Toronto. This includes processes for determining project costs and capital approvals.

Project costs will be independently estimated by both the design and engineering teams and the construction manager at three specific stages of every project (as detailed below). These estimates then undergo a third-party peer review and reconciliation by an independent quantity surveyor retained directly by Waterfront Toronto.

Construction Cost Estimates are required at the following project design milestones.

- Schematic Design (30%)
- Design Development (60%)
- Construction Documents/Pre-Tender (90%)

The 30%, 60% and 90% estimates must indicate that design is proceeding in accordance with the budget.

Project cost estimation follows a stringent process with a specific objective and role of each estimator (as follows):

**Design Team**

Elemental Estimates must be provided at the stages noted above. The Design may progress through each stage once it has been established that the design is proceeding according to budget. Tender documents generally include potential cost saving alternatives that may be implemented should actual tender results exceed budget. The design team is required by contract to design to within 10% of the approved budget or they must redesign at their cost.

**Construction Manager**

Sub-trade estimates are provided at Concept Design as well as at each of the stages as noted above. Subtrade estimates are used to confirm design compliance with budget as well as to
establish the forecast tender values for each sub-trade tender package. The Construction Budget is updated monthly during procurement and construction to account for actual tender results and project changes.

**Independent Estimator/Peer Reviewer**

The peer review quantity surveyor will be retained directly by Waterfront Toronto. This consultant will compare and reconcile the design team and construction manager cost estimates to verify unit rates and quantities, inclusions and exclusions. The peer reviewer will also undertake ad hoc review and critique of contractors’ change notice pricing throughout the project.

**Risk Management Consultant**

In addition to the estimates provided as indicated above, Waterfront Toronto has retained a Risk Management consultant who will document and maintain project and program risk registers. Potential risks, probability and anticipated impacts will be determined collectively by the entire project team including the design team, construction manager, Waterfront Toronto and other public agencies. The Risk Management consultant will quantify risk impacts (using Monte Carlo simulation) utilizing cost estimates provided by the design team and construction manager. This quantification will inform the establishment of appropriate project contingencies.

**Capital Approvals**

Waterfront Toronto’s policies and procedures require that capital approval must be obtained through the Finance, Audit and Risk Management Committee and Board of Directors prior to committing costs that exceed two million dollars. In accordance with generally accepted standard industry practice and the American Association of Cost Engineers International Guidelines, capital approval for construction is normally requested after design has reached 30% completion, a Class 3 cost estimate has been prepared and project risks have been identified and quantified. Exceptions to this policy may be made for Capital Approvals for soft costs or for limited scope early construction works that are required to accelerate or maintain the project schedule.

Pursuant to the American Association of Cost Engineering International classification system, cost estimates undertaken between 10% and 40% design completion generally represent a Class 3 level of accuracy. The classification system specifies that “Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored”. Once the 30% milestone has been achieved for the various Flood Protection Project components, requests for Capital Approval that detail the project scope, costs, schedule, risks and funding will be submitted to the Waterfront Toronto Board of Directors for approval. In addition to this, adverse budget variances that exceed a defined threshold, for previously approved capital projects are brought back to the Board of Directors for approval. The threshold is the lower of $5M or 10% of the original approval amount. All material intended for Board of Directors approval will be presented to the Executive Steering Committee for concurrence in advance of Board of Directors’ approval.

At the Board level, enterprise and project risk is delegated to the Finance, Audit and Risk Management Committee (FARM). One of the Finance Audit and Risk Management Committee’s key and important roles in this process is to identify in conjunction with management those projects that require special monitoring by the FARM Committee subsequent to a capital approval. These are projects that have a high-risk profile by their nature. For example, they have a high dollar value (>50M), are high in complexity and potential for many unknown risks, have a high public profile, and many stakeholders. Projects that are identified as requiring special monitoring have budget,
scope, schedule and risk status reported to the Finance Audit and Risk Management Committee on a quarterly basis.

At the corporate level, Waterfront Toronto has an Enterprise Risk Management (ERM) Taskforce with representation across the organization which is currently comprised of the following staff.

- General Counsel
- Vice President Innovation, Sustainability and Prosperity
- Vice President Project Delivery
- Director Financial Planning
- Design Project Manager
- Project Communications Manager
- Development Finance Manager

The Taskforce meets regularly and maintains an enterprise-wide Risk Register to identify and mitigate key risks impacting the Corporation. This risk register is reviewed at least annually by the Finance Audit and Risk Management Committee and is used by the Corporation's internal auditors to determine areas of audit focus.

Waterfront Toronto will follow its existing Board-approved Delegations of Authority policy which limits financial authority to varying levels of senior management, management and employees to minimize risks and maximize efficiencies in the conduct of the Corporation’s business. The Delegations of Authority is a key aspect of the accountability framework as it ensures the efficient and effective management of the affairs of the Corporation while at the same time ensuring that Board approval is required on more significant or unusual decisions. All transactions are undertaken within the context of the budgets and strategic plans approved by the Board. The Delegations of Authority, which includes the Procurement Signing Authorities, sets out threshold approval amounts for all C-level positions. The current Waterfront Toronto Delegations of Authority Policy is attached as Appendix C.

As noted above, for the Port Lands Flood Protection Project an additional review and approval will be sought from the Port Lands Executive Steering Committee prior to tabling the Capital Approval request at the Waterfront Toronto Finance Audit and Risk Management Committee for review and recommendation to the Board of Directors. For time-sensitive items, staff will seek approvals from the Executive Steering Committee and Board sub-committees concurrently.

The following table provides a summary and timeline of the anticipated Capital Approval submissions that will be sought from the Executive Steering Committee and Board of Directors in 2018.
### Capital Approval Request

| Soft Costs (including professional services & project management) | February 20, 2018 - Review | March 8, 2018 | March 29, 2018 |
| Site Preparation, Shallow Excavation & Soil Remediation | May 16, 2018 | May 31, 2018 | June 28, 2018 |
| 30% Stage Gate Update | September 18, 2018 | September 20, 2018 | October 11, 2018 |
| To Be Determined (including Deep Excavation & New Cherry Street) | September 18, 2018 | September 20, 2018 | October 11, 2018 |
| To Be Determined (including new bridges on Cherry & Commissioners) | November 21, 2018 | November 29, 2019 | December 6, 2018 |

Additional Capital Approvals will be requested in subsequent years based on the anticipated construction timelines (e.g. Capital Approvals for certain parks, roads and structures will be sought only when required to allow for procurement and construction of those elements to proceed in accordance with the approved schedule.

### Enhancements to Internal Processes and Toolsets

As noted, Waterfront Toronto is currently implementing measures to further enhance its project risk management framework, including the establishment of:

1. A new Enterprise Resource Planning ("ERP") technology (Dynamics 365)
2. A Program Management Office (PMO) to streamline project lifecycle workflows and manage risk; and
3. A Peer Review Advisory Panel of experts with specific industry knowledge

### Enterprise Resource Planning Tool

Waterfront Toronto project ERP D365 is underway with the objective to modernize the technology used for managing corporate resources. The ERP D365 tool delivers more complex integration of corporate functions (Financials, HR, Legal, Procurement, reporting and controls). There are direct benefits to Project Delivery Department. Waterfront Toronto will use ERP D365 to integrate and automate: entry of project information by project manager; reporting of project actual and remaining expenditures; consolidated financial and risk reporting to WT management and governing committees. Procurement will eliminate some manual paperwork processes and Finance and HR will benefit by automating project resources time reporting necessary for capturing project costs.

Design and configuration of the system is currently underway. The target for ERP D365 implementation is calendar Q2 2018.
Capital Program Management Office

The Capital Program Management Office ("CPMO") will be established as an overarching quality control department with a mandate to strengthen governance of Waterfront Toronto projects and to formalise separation of project controls from execution. The Capital Program Management Office will incorporate existing project controls functions and assume the additional responsibility of streamlining and managing Waterfront Toronto’s Stage Gating processes. Finally, the Capital Program Management Office will be a corporate support function with responsibility across the entire portfolio of Waterfront Toronto projects.

Mandate

- project management and controls methodology and workflows
- project governance and oversight – full lifecycle, every project
- integrated reporting
- peer relationships with WT VPs

Role & Responsibility

- manage project workflows – from new request to close-out
- develop and monitor Key Performance Indicators
- facilitate elaboration of project plans, project documentation
- assist finance and accounting group
- work with VP Project Delivery and Chief Project Officer
- manage Stage Gate governance
- assist internal and external audit reviews

Capital Peer Review Panel

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

Implementation of the Peer Review Panel will commence following Waterfront Toronto Board of Director’s review and concurrence of this plan, currently scheduled for March 29, 2018. It is anticipated that the panel will be identified and in place in July 2018.
The following chart illustrates the functional and reporting relationship between the Finance Audit and Risk Management Committee, senior management, the CPMO and the Capital Peer Review Panel.

**Conclusion:**

2. The Capital Peer Review Panel will meet on a bi-monthly basis to review project Capital Approval documentation (Budget, Schedule, Risk) at appropriate project stage gates and prior to presentation to the Executive Steering Committee and Waterfront Toronto Finance, Audit and Risk Management Committee in accordance with the following process flow diagram.

**Logistics**

- Stages as relevant to a particular project
- VP Project Delivery determines timing and objectives
- Formal schedule, called by PMO.
- Peer Review Panel to review and advise on decision documentation
- Board approvals tied with project execution
Contingency Management

Waterfront Toronto proposes a contingency management process that incorporates a combination of Port Lands specific project level and program level contingencies. Management of project contingencies will be the responsibility of the project team. The program contingency (which will be allocated across the Port Lands program of projects) will be managed and controlled through the Program Management Office and subject to the approval of Waterfront Toronto senior management, or the Executive Steering Committee based on the proposed use of the contingency and the value of contingency utilization required. The thresholds for each level of approval are proposed to be as follows.

Contingency Delegations of Authority

Conclusions:

3. The total Project escalation allowance established during Due Diligence was calculated to be 10% or $119 million. Refer to Due Diligence report pages 75 through 83. Approved sub-project budgets will include an escalation allowance in the amount of 10% which will be available to and be managed by the project team.

4. The total Project risk contingency established during Due Diligence was calculated to be 20% or $173 million. Refer to Due Diligence report pages 75 through 83. Approved sub-project budgets will include a risk contingency drawn from the $179 million. The sub-project risk contingency amount will be determined by the project team (in consultation with the Executive Steering Committee and WT FARM Committee) either through the Risk Mitigation and Quantification process or through standard industry benchmarking.
   a. 1/3 of the risk contingency (to a maximum of 7% of the sub-project budget) will be available to the project team to be used to fund non-discretionary project changes on a sub-project basis.
   b. 2/3 of the risk contingency (to a maximum of 13% of the project budget) will be available to Waterfront Toronto senior management for discretionary and/or non-discretionary project changes on a sub-project and Portlands Flood Protection program-wide basis.
   c. All discretionary project changes in excess of $1 million will be presented to the Port Lands Flood Protection Executive Steering Committee for acceptance prior to implementation.

5. Utilization of the 10% or $5 million (whichever is less) Board of Directors Capital Approval contingency will require approval of the Port Lands Executive Steering Committee and be subject to the availability of funding.

6. Project contingency will be re-quantified on a quarterly basis and will be released to the Portlands Flood Protection program contingency when appropriate.

The above assumes that no additional Board Approvals are required to access and utilize contingencies once Capital Approval has been obtained from the Board of Directors;

Discretionary project changes are defined as changes to the scope of the project as described in the Port Lands Flood Protection Due Diligence document including but not limited to:
1. Project components or processes that were not included in the original scope of the project (i.e. transit lanes on South Cherry Street and Commissioner Street Bridges; First Nations consultation, accommodation and engagement)
2. Project components, changes or processes that are not required to permit the completion of the in scope project elements
3. Elimination of project components that were included in the original project scope

Discretionary project changes were not factored into the calculation of the risk contingency for the project.

Non-discretionary project changes are defined as changes that do not modify the scope of the project as described in the Port Lands Flood Protection Due Diligence document including:

1. Additional costs for project components due to market forces (eg increased costs at tender)
2. Additional costs for project components due to unknown site conditions
3. Changes to project components required to obtain permits and approvals from Authorities Having Jurisdiction
4. Further definition and delineation of project elements through the design development and specification process

Non-discretionary project changes were explicitly recognized and provided for in the calculation of the risk contingency for the project

**Peer Review of Organizational Resiliency and Risk Management Improvements**

The proposals contained herein have been peer reviewed by three independent expert organizations representing private sector major infrastructure delivery (Projectus Infrastructure Services), public sector infrastructure delivery (Netherlands Infrastructure Ministry - Rijkwaterstaat) and Waterfront Toronto’s External Auditor (BDO Canada).

**BDO Canada** is an assurance and advisory organization. BDO was engaged to performs review and provide recommendations related to:

- Alignment with Effective Governance Framework
- Program Management Office structure
- Waterfront Toronto governance structure

**Rijkwaterstaat** is part of the Dutch Ministry of Infrastructure and the Environment and is responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands. With a mandate similar to Waterfront Toronto RWS undertook an on-site review and provided recommendations related to:

- Validation of permits and approvals process
- Construction and contractor management
- Stage gate process
- PMO risk management processes
- PMO project controls structure, management, processes and reporting

**Projectus** Infrastructure Services is a specialized project management and advisory service focused on rail, port and mining sectors. The Projectus team includes some of industry’s most capable and experienced executives, project directors, managers and discipline specialists, spanning the full supply chain. Projectus conducted a review of:
Organization structure and function  
Stage gate process  
PMO risk management structure, management, processes and reporting  
PMO project controls structure, management, processes and reporting  
Consultant, construction and contractor management approach.

**Peer Review Comments**

As a result of peer reviewers’ findings contained in formal reports, full support has been noted for Waterfront Toronto Organizational Resiliency Plan, with four categories of points for attention. Note that where appropriate, modifications to process and structure have or will be implemented to respond to the comments provided.

On Project technical aspects:

- assess whether climate change has been sufficiently taken into account. River hydraulic conditions are never stable, and it is important to have a sufficient consideration at the start of design process. In consultation with TRCA take climate changes well into account.
- soil work is source of biggest uncertainty – plan for it
- the contingency budget on 90% is good however there is still a significant risk, therefore think of “what-if” scenarios.

On Governance and Processes

- empower PMO with authority and responsibility not just governance – by employing appropriate tools and procedures PMO is keeper of the contingency budget, risk manager of the Project, responsible for reporting and oversight.
- pre-determine, simplify the process or reduce number of releases of government funds - current process of releasing funds four times a year has created a complexity required to ask for the funds which is purely administrative. A proper governmental control can still be maintained with existing quarterly reporting on how funds are spent even when releases of funds are streamlined, number of releases are reduced etc.
- budget contingency – keep it on program level – allocate % of tactical contingency at project level – port lands flood protection is considered as a program consisting of multiple sub projects. Financial / budget uncertainty of each sub project are balanced out at the program level. On average a risk contingency budget of 20% is needed, but there is no single sub project with a risk occurring exactly at 20%. By managing on program level, the project team is able to balance out the risks.
- Safety and Risk management is prominent part of project execution - an effective project management considers a dedicated manager with a responsibility of using risk analysis and visual management tools to get safety and risk management on top of everybody’s mind.

On Staffing

- expedite staffing-up of project resources to ensure capacity to deliver - Plan for time contingency to cover learning curve of new resources
- Staffing is a great challenge in the best of times. The project team has planned and is provisioning for a capacity to deliver. Getting enough expertise is a first challenge. Getting new resources at the same level and creating smooth collaboration is the next step. Speed
up a learning curve by visits to the project site, actively involving resources in decision making, making resources responsible and educate them on project specifics.

On Stakeholder Management

- be proactive in communication and ensure public and stakeholder support
- have a full and direct access and working relationship with the political stakeholders
- although the funding decisions are made, unexpected situations might develop to a political pressure if not handled at right level.