2021-2025 Financial Plan Overview

Jerry W. Dobrovolny
COMMISSIONER/CHIEF ADMINISTRATIVE OFFICER

Dean Rear
GENERAL MANAGER, FINANCIAL SERVICES/CHIEF FINANCIAL OFFICER

Water Committee – October 8, 2020
Reflecting Feedback

• Observing 2020 Budget Process
  o Strengths
  o Opportunities for Improvement
Strengths

• Strong financial position
• Process includes multiple layers of scrutiny
• Board Strategic Plan and 5 Year Financial Plan
  • Provides foundation
Opportunities for Improvement

- Overall picture of the budget at the Committee level
- Earlier direction from the Board
- Greater input and transparency around decision making
- Increased understanding of evolving municipal challenges
Board Direction from June Workshop

Short-term Relief for Households
   Leverage supported tools to create a short-term action plan (1-3 years)

Maintain current goals and objectives
   Continue work on strategic and long-range plans

Realize New Opportunities
   Partner on projects to increase affordable housing
   Reduce GHGs
   Help drive economic recovery
Realizing New Opportunities

- Expanding affordable rental housing through strategic redevelopment and partnerships
  - 7-8 projects over 5 years (750-900 units)
- Waste-to-Energy District Energy
  - Up to 70,000 tonnes of GHG reductions per year
- Project delivery – maximizing local benefits
Toolbox

Continuous Improvement
Capital Plan Deferrals
Demand Side Management
Reduce Pay-as-you-go
Increase Debt Amortization Term

Asset Management Plans
- Minimize asset failure risks and impact to customers
- Optimize lifecycle value
- Meet asset performance targets

Financial Management Policy
- 15 Year Amortization Period
- Pay-as-you-go to ensure <40% debt servicing cost

Water Committee
Continuous Improvement

• Opportunities for continuous improvement
  o Find efficiencies
  o Improve service

• Annacis Cogen Expansion: $1.5M savings in 2020

• Identified 2021 opportunities:
  o Fraser Valley Gravel Pit Reclamation - $1.7M savings
  o Lulu Island Green Biomethane Sales Revenue - $860k in revenue
  o In-house Engineering and Design - $500k savings
  o COVID Claims Management on over 50 projects
Project Review

- Review of over 300 capital projects
  - Numerous adjustments to workplans and schedules
- Leveraging conservation efforts to defer growth-related infrastructure projects (demand side management)
Project Review

Capital Plan Deferrals

• Capital plan includes deferring key phases of the Coquitlam Water Supply project

• Unique opportunity to significantly increase water conservation efforts to achieve long-term per capita reductions
Capital Plan Requirements

*Infrastructure Resilience*

- Aging Infrastructure
- Climate Change Adaptation
Financial Tools

• Financial tools used to provide short-term relief:
  o Changing amortization period to 30 years for the next 2 years
  o Eased pay-as-you-go funding for next 3 years
## Budget Adjustments

<table>
<thead>
<tr>
<th>$967.5 M</th>
<th>Prior Projection for 2021 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>$42</td>
<td>Increase for the average household in 2021 (Water: $7, Liquid Waste: $26, Solid Waste: $3, MVRD: $6)</td>
</tr>
<tr>
<td>$602</td>
<td>Average annual costs for all Metro Vancouver services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$939.5 M</th>
<th>Proposed 2021 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>$17</td>
<td>Increase for the average household in 2021 (Water: $2, Liquid Waste: $8, Solid Waste: $0, MVRD: $7)</td>
</tr>
<tr>
<td>$577</td>
<td>Average annual costs for all Metro Vancouver services</td>
</tr>
</tbody>
</table>
## Overall Household Impact 2021-2025

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water District</strong></td>
<td>$172</td>
<td>$174</td>
<td>$178</td>
<td>$182</td>
<td>$197</td>
<td>$217</td>
</tr>
<tr>
<td><strong>Liquid Waste</strong></td>
<td>$264</td>
<td>$272</td>
<td>$289</td>
<td>$310</td>
<td>$344</td>
<td>$385</td>
</tr>
<tr>
<td><strong>Solid Waste</strong></td>
<td>$61</td>
<td>$61</td>
<td>$63</td>
<td>$65</td>
<td>$67</td>
<td>$70</td>
</tr>
<tr>
<td><strong>Regional District</strong></td>
<td>$63</td>
<td>$70</td>
<td>$73</td>
<td>$77</td>
<td>$81</td>
<td>$82</td>
</tr>
<tr>
<td><strong>Total Household Impact</strong></td>
<td><strong>$560</strong></td>
<td><strong>$577</strong></td>
<td><strong>$603</strong></td>
<td><strong>$634</strong></td>
<td><strong>$689</strong></td>
<td><strong>$754</strong></td>
</tr>
<tr>
<td><strong>% Change</strong></td>
<td>3.2%</td>
<td>4.2%</td>
<td>5.2%</td>
<td>8.8%</td>
<td>9.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Prior Year Forecast</strong></td>
<td>$602</td>
<td>$655</td>
<td>$708</td>
<td>$755</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prior Year % Change</strong></td>
<td>7.4%</td>
<td>9.0%</td>
<td>8.0%</td>
<td>6.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Water Committee*
Long-term Impact

Long-term Household Impacts of Financial Levers

- No Financial Levers
- With Financial Levers

Water Committee
• 2022 Budget Cycle will continue to prioritize:
  o Continuous improvement to realize cost savings and efficiency gains, including delivery mechanisms for capital projects
  o Exploring alternatives to building new infrastructure i.e. demand side management strategies
  o Sound fiscal management
  o Understanding of municipal challenges
  o Early direction from Boards and Committees
Financial Plan Overview
**Overview:**

- 2020 Operating Budget: $894.3M
- 2021 Operating Budget: $939.5M (5.1%)
- $28M less than previously projected for 2021

**Drivers:**

- Increase in Operations averages 2.2% over 5 years
- Debt servicing reflective of the capital program, but favorable rates and 30 year amortization in 2021/22
- Easing Contribution to Capital in 2021/22/23 - Refocusing in 2024/25
Overview:
- Primary funding sources - water sales, sewer levy, tipping fees, rents, MVRD requisition
- Expecting relative stability for primary sources
- Continued focus on alternate sources

Drivers:
- Assumed Water DCC revenue received and applied starting in 2023
- Assumed partner funding for upcoming major capital projects, reduces pressure on levies/rates
- Assume return to the Financial Management Policy in 2024/25
Overview:
- 2020 Capital Budget: $1.41B
- 2021 Capital Budget: $1.52B
- Increase: $110.0M (7.8%)

Drivers:
- Capital project in progress carried forward
- Reviewed for deferrals and savings
- Project risks and scope provisions
Questions
2021 – 2025 FINANCIAL PLAN
WATER SERVICES

Marilyn Towill
GENERAL MANAGER, WATER SERVICES

Cheryl Nelms
GENERAL MANAGER, PROJECT DELIVERY

Water Committee – October 8, 2020
Maintain Metro Vancouver’s world-class clean, safe drinking water system
Ensure the long-term resilience of the regional drinking water system
Prioritize conservation efforts to defer capital growth projects
## PERFORMANCE METRICS

<table>
<thead>
<tr>
<th>Key Performance</th>
<th>Past Performance (Average)</th>
<th>Expected Performance 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak day per capita water use (litres)</td>
<td>628</td>
<td>593</td>
</tr>
<tr>
<td>Annual volume of drinking water treated and delivered (in billion litres)</td>
<td>387</td>
<td>389</td>
</tr>
<tr>
<td>Number of leak repairs in water transmission system piping per 100 kilometers of pipe</td>
<td>3.18</td>
<td>&lt;3.1</td>
</tr>
</tbody>
</table>
## CONTINUOUS IMPROVEMENT

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of expanded Building Information Modelling</td>
<td>Reduce costs by reducing potential design conflicts and need for change orders during construction.</td>
</tr>
<tr>
<td>Watershed Protection Program Improvements</td>
<td>Improvements include watershed gate hardening, fencing enhancements, camera upgrades and increased presence at key boundary locations.</td>
</tr>
<tr>
<td>Efficiency Improvements in Procurement of Capital Works</td>
<td>Pre-qualified pool of consultants to meet project work load spikes and contractors to reduce project tender time. Developed standardized method for linear projects to minimize community impacts and improve schedule.</td>
</tr>
</tbody>
</table>
Overview:
2020 Operating Budget: $310.4M
2021 Operating Budget: $318.6M
2.6% increase

Drivers for Change:
Managing contribution to capital in accordance with Financial Management Policy

2021 – 2025 Water Services Financial Plan

- Operating Programs
- Debt Service
- Contribution to Capital
- Household Impact
**Overview:**

2020 Operating Budget: **$310.4M**

2021 Operating Budget: **$318.6M**

2.6% increase

**Drivers for Change:**

Water Sales

---

**OPERATING FUNDING**

Water Services Financial Plan

**2021 – 2025 Water Services Financial Plan**

- **Water Sales**
- **Other External Revenues**
- **Transfer from SIF**
- **Transfer from Reserves**

Water Committee
<table>
<thead>
<tr>
<th>Budget Year</th>
<th>Initiative</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>Update the Drinking Water Management Plan</td>
<td>Updated plan with our members will be a key part of how GVWD plans for the future</td>
</tr>
<tr>
<td>2022</td>
<td>Develop Facility Master Plans</td>
<td>Facility Master Plans will map future growth aligned with Metro Vancouver’s Water Supply Outlook 2120</td>
</tr>
<tr>
<td>2023</td>
<td>Environmental Management System for Water Services</td>
<td>Will document our commitment to environmental protection and regulatory compliance</td>
</tr>
<tr>
<td>2024</td>
<td>Review Drinking Water Conservation Plan</td>
<td>Continue collaboration with our members to implement. Potential updates in 2024 following new restrictions first implemented Summer 2018</td>
</tr>
<tr>
<td>2025</td>
<td>Reservoir Isolation Valve Automation</td>
<td>To improve network control and operational response times during emergencies</td>
</tr>
</tbody>
</table>
Overview:
2020 Capital Budget: $397.5M
2021 Capital Budget: $431.3M
8.5% increase

Drivers for Change:
Growth

2021 – 2025 Water Services Capital Plan

- Growth
- Maintenance
- Resilience
- Upgrade
- Opportunity
Overview:
2020 Capital Budget: $397.5M
2021 Capital Budget: $431.3M
8.5% increase

Drivers for Change:
Water DCCs included from 2023 onwards

2021 – 2025 Water Services Capital Plan
## CAPITAL PROGRAM HIGHLIGHTS

<table>
<thead>
<tr>
<th>Budget Year</th>
<th>Capital Project</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>Central Park Main No. 2 Construction</td>
<td>Replacing existing main with high leakage rate which is at end of service life</td>
</tr>
<tr>
<td>2022</td>
<td>Coquitlam Intake Tower Seismic Upgrade Construction</td>
<td>Seismic upgrade to enable tower to withstand expected earthquake</td>
</tr>
<tr>
<td>2023</td>
<td>Rechlorination Station Upgrades Construction</td>
<td>Upgrade aging chemical piping, tanks and equipment to maintain level of service</td>
</tr>
<tr>
<td>2024</td>
<td>Coquitlam Water Treatment Plant Ozone Backup Power</td>
<td>Backup power construction to enable continued operation during a power outage</td>
</tr>
<tr>
<td>2025</td>
<td>Whalley Kennedy Main No. 2 Detailed Design</td>
<td>New main required to increase transmission capacity south of the Fraser River</td>
</tr>
</tbody>
</table>
# WATER SERVICES FINANCIAL PLAN SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Expenditures</strong></td>
<td>$310.4</td>
<td>$318.6</td>
<td>$327.4</td>
<td>$338.9</td>
<td>$372.3</td>
<td>$414.1</td>
</tr>
<tr>
<td><strong>% Change</strong></td>
<td>2.6%</td>
<td>2.8%</td>
<td>3.5%</td>
<td>9.8%</td>
<td>11.2%</td>
<td></td>
</tr>
<tr>
<td><strong>Blended Water Rate</strong></td>
<td>$0.7836</td>
<td>$0.8110</td>
<td>$0.8341</td>
<td>$0.8633</td>
<td>$0.9440</td>
<td>$1.0508</td>
</tr>
<tr>
<td><strong>Change From Prior Cycle</strong></td>
<td>($0.020)</td>
<td>($0.071)</td>
<td>($0.132)</td>
<td>($0.151)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>Total Capital Expenditures</strong></td>
<td>$397.5</td>
<td>$431.3</td>
<td>$462.6</td>
<td>$469.5</td>
<td>$499.7</td>
<td>$497.6</td>
</tr>
<tr>
<td><strong>Household Impact</strong></td>
<td>$172</td>
<td>$174</td>
<td>$178</td>
<td>$182</td>
<td>$197</td>
<td>$217</td>
</tr>
<tr>
<td><strong>% Change</strong></td>
<td>1.7%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>8.4%</td>
<td>10.0%</td>
<td></td>
</tr>
<tr>
<td><strong>Prior Cycle Household Impact Change</strong></td>
<td>4.2%</td>
<td>7.7%</td>
<td>8.8%</td>
<td>9.2%</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Water Committee
Delivery of highest-value, highest-risk and complex Liquid Waste and Water infrastructure valued at $3.9B over 2021-2025:

- Iona Island WWTP Program
- North Shore WWTP Project
- Northwest Langley WWTP Projects
- Coquitlam Water Supply Project
- Annacis Water Supply Tunnel
- Second Narrows Water Crossing

Organization-wide Asset Management

Enhanced project delivery and training support for all departments
CAPITAL BUDGET MANAGED BY PROJECT DELIVERY

Capital Budget Dollars (in Millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Other Capital</th>
<th>Project Delivery Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>2022</td>
<td>42%</td>
<td>58%</td>
</tr>
<tr>
<td>2023</td>
<td>48%</td>
<td>52%</td>
</tr>
<tr>
<td>2024</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>2025</td>
<td>67%</td>
<td>33%</td>
</tr>
</tbody>
</table>
MAJOR PROJECT TIMELINE

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Name</th>
<th>LW Planning/Design</th>
<th>LW Construction</th>
<th>WS Planning/Design</th>
<th>WS Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Iona Island WWTP Upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>North Shore WWTP Upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Annacis WWTP Stage 5 Expansion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Northwest Langley WWTP Expansion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Second Narrows Water Supply Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Annacis Water Supply Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Cambie Richmond Water Supply Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Stanley Park Water Supply Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Coquitlam Water Main</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>Coquitlam Lake Water Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021-2025</td>
<td>2021-2025 BUDGET</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Original Completion Date

Water Committee
WATER SUPPLY TUNNEL PROJECTS

CONSTRUCTION

- Second Narrows Water Supply Tunnel
- Annacis Water Supply Tunnel
- Stanley Park Water Supply Tunnel

Benefits
- Supports 24,000 Jobs
- Growth, Maintenance and Seismic Resilience

$2021-2025 Cashflow
$932 million

<table>
<thead>
<tr>
<th></th>
<th>Second Narrows 2021-2024</th>
<th>Annacis Tunnel 2021-2025</th>
<th>Stanley Park 2022-2025</th>
</tr>
</thead>
</table>

Tunnel Boring Machine – Port Mann South Shaft
WATER SUPPLY TUNNEL PROJECTS

PLANNING AND DESIGN

- Lulu Island Delta Water Supply Tunnel
- Cambie-Richmond Water Supply Tunnel

Benefits
- Supports 15,000 Jobs
- Enhances seismic resilience

$2021-2025 Cashflow
$86 million

Construction
- Lulu Island Delta Tunnel 2022-2026
- Cambie-Richmond Tunnel 2027-2031
## COQUITLAM LAKE WATER SUPPLY PROJECT

### ACCOMMODATE GROWTH

#### Benefits
- Supports 48,000 Jobs
- Doubles our ability to access, treat and distribute water from Coquitlam Lake
- Secures water supply for future generations
- Enhances climate change resilience

#### 2021-2025 Cashflow
- $99 million

#### Schedule
- To be reviewed

---

Coquitlam Water Supply Project Rendering

Water Committee
COQUITLAM MAIN WATER PROJECT

ACCOMMODATE GROWTH

Benefits
- Supports 14,000 Jobs
- Accommodates population growth
- Enhances climate change and system reliability
- Improves seismic resilience

2021-2025 Cashflow
$308 million

Schedule to be reviewed
Stanley Park Water Supply Tunnel
Second Narrows Water Supply Tunnel
Kennedy Newton Main

Water Committee
Whalley Main

Water Committee
Sunnyside Reservoir
Questions