TO:	CHAIR AND MEMBERS FINANCIAL MANAGEMENT COMMITTEE	**DATE:**	October 14, 2020
FROM:	CHIEF INFORMATION OFFICER	**FILE:**	3000-20

SUBJECT: **2020 & 2021 INFORMATION TECHNOLOGY CAPITAL PROGRAM**

PURPOSE: To request a Capital Reserve Fund Bylaw to finance the 2020 – 2021 Information Technology capital program as outlined in this report.

RECOMMENDATIONS:

1.   **THAT** Financial Management Committee recommend Council authorize the City Solicitor to bring forward a Capital Reserve Fund Bylaw in the amount of $2,982,000 to finance the Information Technology capital program as outlined in this report.

REPORT

1.0   INTRODUCTION

The 2020 – 2024 Financial Plan provides funding for the annual Information Technology capital program. This program facilitates the replacement, expansion and upgrading of enterprise and departmental hardware and software in order to enhance the City's services to the public and improve the efficiency of internal processes. The purpose of this request is to seek approval of the Committee and Council to finance the 2020 – 2024 Information Technology capital program.

2.0   POLICY SECTION:

The 2020 – 2024 Information Technology capital program is aligned with the City of Burnaby's Corporate Strategic Plan by supporting the following goals and sub-goals of the Plan.

- A Dynamic Community – Build and maintain infrastructure that meets the needs of our growing community.
- A Thriving Organization – Protect the integrity and security of City Information, Services, and Assets.

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3.0 IT INFRASTRUCTURE PROGRAM

The 2020 – 2024 IT Infrastructure Program includes initiatives to replace aging computer equipment, upgrade or expand infrastructure to support technical applications throughout City departments, and enhanced service to the public and internal stakeholders. This funding report, subject to approval by Council, will allow staff to continue with several projects included in the 2020 – 2024 IT Capital Program projects listed below.

3.1 INFRASTRUCTURE REPLACEMENT   Estimated $1,995,300

The City maintains an annual replacement program for its computer equipment such as storage, servers, routers, switches, access points, workstations, monitors, tablets and associated peripheral devices. 2020/2021, funding is required to replace storage area network (SAN) devices, several older servers, workstations, networking devices, cabling and equipment that have reached the end of their useful life and to fund essential upgrades to Fire Department hardware.

Specific replacement work consists of:

- SAN Storage infrastructure
- Computers, laptops, and related workstation equipment
- Server hardware
- Cabling, wiring and fibre-optics
- Network communications equipment

Additional information on the specific projects included in the IT Infrastructure Program is provided in Appendix 1

Partial funding has been requested for SAN Storage and Networking infrastructure but additional funds are required to complete additional replacement work. . Funding provision included in the 2021 plan for Workstations, Servers, City-Wide Conduit and Security Posture Improvements has been deferred to accommodate the accelerated SAN replacement requirements mentioned above.

Project Mask(s)	2020	2021	Total
AEC.0032 - Workstations	-	$280,700	$280,700
AEC.0033 - Servers	-	$260,300	$260,300
AEC.0034 - Storage	-	$854,000	$854,000
AEC.0035 - Networking	-	$506,400	$506,400
AEC.0026 - Power Systems	$25,000	$18,900	$43,900
AEC.0028 - Infrastructure	$50,000	-	$50,000
Total	**$75,000**	**$1,920,300**	**$1,995,300**

3.2 INFRASTRUCTURE REQUIRED FOR GROWTH   Estimated $623,000

This program includes purchases of new computer equipment, peripherals, supporting software and services and software application upgrades. These purchases will support planned 2021 City initiatives designed to address organizational needs, augment public services and reduce business risks associated with aging technology.

Specific works include:

- City network uplink upgrades
- Net New hardware
- Cloud infrastructure build

Additional information on the specific projects included in the IT Infrastructure Program is provided in Appendix 1.

Project Mask(s)	2021
AEC.0037 – City-Wide Conduit	$223,000
AEC.0039 – Cloud Pilot	$250,000
AEY.2021 – Net New Desktop Program	$150,000
Total	**$623,000**

4.0   BUSINESS SOLUTIONS PROGRAM   Estimated $363,700

The City develops an annual plan to replace and upgrade business applications for the purposes of enhancing citizen service through quicker and easier access to City information and services online, and to ensure internal systems are robust, sustainable and continue to evolve to meet the changing needs of the business.

Early funding is being requested for the 2021 scope of work as the Information Technology department is preparing to start the Phase 2 of Learning Management System deployment and to replace legacy Golf System. These projects are included in the 2021 Business Solutions Program under Departmental Applications.

Project Mask(s)	2021
AEA.0078 – Learning Management System	$230,000
AEA.0106 – Golf System	$133,700
Total	**$363,700**

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These expenditures are included in the 2020 – 2024 Financial Plan and sufficient Capital Reserve Funds are available to finance the capital project outlined in this report.

5.0   RECOMMENDATION

It is recommended that the Financial Management Committee recommend Council authorize the City Solicitor to bring forward a Capital Reserve Fund Bylaw in the amount of $2,982,000 to finance the Information Technology Capital Program.

Bachar Khawajah
CHIEF INFORMATION OFFICER

Copied to: City Manager
               Director Finance
               City Solicitor

Appendix 1

IT Infrastructure Capital Program for 2020-2024 – Supplementary Information

1.0   INFRASTRUCTURE REPLACEMENT 2020-2024 $1,995,300

The City maintains an annual replacement program for its computer equipment such as servers, cabling, network, workstations and associated peripheral devices. Funding is required to replace SAN storage, several older servers, workstations, and equipment that have reached the end of their useful life.

Specific replacement works consist of:

- Workstations (AEC.0032) - *$280,700*
  - Standard lifecycle replacement of desktops, laptops, monitors, tablets and related workstation equipment
  - Meeting room Equipment (TVs and related peripherals)

- Server hardware (AEC.0033) - *$260,300*
  - Replacement of existing physical servers with faster, larger format servers that will better support server virtualization initiatives. (Server virtualization allows multiple applications to run on a single server reducing overall data centre costs.)
  - Replacement of NICE recording servers used in Fire Dispatch for recording the 911 calls.
  - Standard hardware lifecycle replacement based on a risk analysis of the expected life of the units and disk combined with the business criticality of the applications.

- SAN Storage Replacement (AEC.0034) - *$854,000*
  - Replacement of aging SAN storage infrastructure with modernized storage and cloud ready solution.
  - Standard hardware lifecycle replacement based on risk analysis of the expected life of the units and disk combined with the business criticality of the applications.

- Network communications and backbone equipment replacement (AEC.0035) - *$506,400*
  - Replacement of Core switches providing the City's network backbone
  - Replacement/upgrade of existing cabling to maintain continuity and quality of service
  - and core firewall equipment
  - Upgrading facility switches and Wireless Access Points with latest models

- UPS, PDUs and Infrastructure Appliances Replacement
  - Replacement of 25 Uninterrupted Power Supply units across different City facilities (City Hall, Recreation Centres, Library and Firehalls) (AEC.0026) - *$43,900*
  - Replacement of Point-of-Sale systems used by Finance and Revenue across different City facilities (City Hall, CPOs and libraries) (AEC.0028) - *$50,000*

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2.0   INFRASTRUCTURE REQUIRED FOR GROWTH 2021 $623,000

This program includes purchases of net new computer equipment, peripherals, software licences and implementation services, as well as building infrastructure for Fibre network to connect different City facilities to provide fast speed internet connectivity. This program will also include creation and testing cloud infrastructure and to build disaster recovery environment for the City's IT Infrastructure.

Specific works include:

- City-wide Fibre build and Conduit remediation (AEC.0037) - *$223,000*
  - Inclusion of City conduit in existing Engineering capital works projects, building long-term network capacity for civic communications
  - Replacement of aging Multimode internal building fibre with single mode fibre,
  - Fiber installation and conduit remediation between different City locations

- Cloud Infrastructure Build – Pilot (Infrastructure As A Service) (AEC.0039) - *$100,000*
  - Establish connectivity between City network and cloud services provider
  - Build City's network infrastructure to provide cloud connectivity to City users

- Disaster Recovery Backup Build (AEC.0039) - *$150,000*
  - Discovery and creation of disaster recovery infrastructure for City's datacenter to provide remote connectivity in case of any disaster (Earthquake, Flood etc.)
  - Establish offsite backup location for critical business applications and data to protect ransomware attacks.

- Net New Program (AEY.2021) - *$150,000*

  - Additional desktop equipment and software for City departments to accommodate changes to staffing and service requirements