



# City of Richmond

## Report to Committee Deputy CAO's Office

**To:** General Purposes Committee  
**From:** Martin Younis, B. Eng., M. Eng.  
Director, Facilities and Project Development

**Date:** June 14, 2024  
**File:** 06-2055-01/2024-Vol 01

Ben Dias  
Manager, Works Yard Planning

**Re:** **Works Yard Replacement Project - Key Design Parameters and Guiding Principles**

### Staff Recommendations

1. That the Key Design Parameters as described on page 5 of the staff report titled “Works Yard Replacement Project - Key Design Parameters and Guiding Principles” dated June 14, 2024, from the Director, Facilities and Project Development and the Manager, Works Yard Planning, be approved; and
2. That the Guiding Principles as described in Attachment 1 of the staff report titled “Works Yard Replacement Project - Key Design Parameters and Guiding Principles” dated June 14, 2024, from the Director, Facilities and Project Development and the Manager, Works Yard Planning, be approved and utilized to guide the development of the Works Yard Replacement Project.

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Ben Dias  
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Att. 1

REPORT CONCURRENCE		
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Public Works	<input checked="" type="checkbox"/>	
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Finance	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
<b>SENIOR STAFF REPORT REVIEW</b>	<b>INITIALS:</b> 	<b>APPROVED BY CAO</b> 

## Staff Report

### Origin

At the Open Council meeting on July 10, 2023, it was announced that the existing Lynas Lane location will be the site for replacement of the Works Yard. The Works Yard is critical to operations, emergency response and disaster recovery, supporting services, equipment, and material that are fundamental for the operations and maintenance of the City's infrastructure. The Works Yard is essential to maintaining the City's ability to respond and recover when community safety events occur.

Following Council's approval of the capital budgets for Phase 1 of the Works Yard's replacement, the Architectural Services contract and Construction Manager Pre-Construction Services contract were awarded. Simultaneous award of design and pre-construction services was recommended as design assistance and constructability efficiencies are maximized when the work is integrated.

The purpose of this report is to provide a progress summary and bring forward recommendations on the Works Yard Replacement Project ("the Project") Key Design Parameters and Guiding Principles which will be fundamental in design and program development.

This report supports Council's Strategic Plan 2022-2026 Focus Area #1 Proactive in Stakeholder and Civic Engagement:

*Proactive stakeholder and civic engagement to foster understanding and involvement and advance Richmond's interests.*

*1.2 Advocate for the needs of Richmond in collaboration with partners and stakeholders.*

*1.3 Increase the reach of communication and engagement efforts to connect with Richmond's diverse community.*

*1.4 Leverage a variety of approaches to make civic engagement and participation easy and accessible.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

*Community safety and preparedness through effective planning, strategic partnerships and proactive programs.*

*3.1 Advance proactive, sustainable, and accelerated flood protection in collaboration with other governments and agencies.*

*3.3 Ensure the community is collectively prepared for emergencies and potential disasters.*

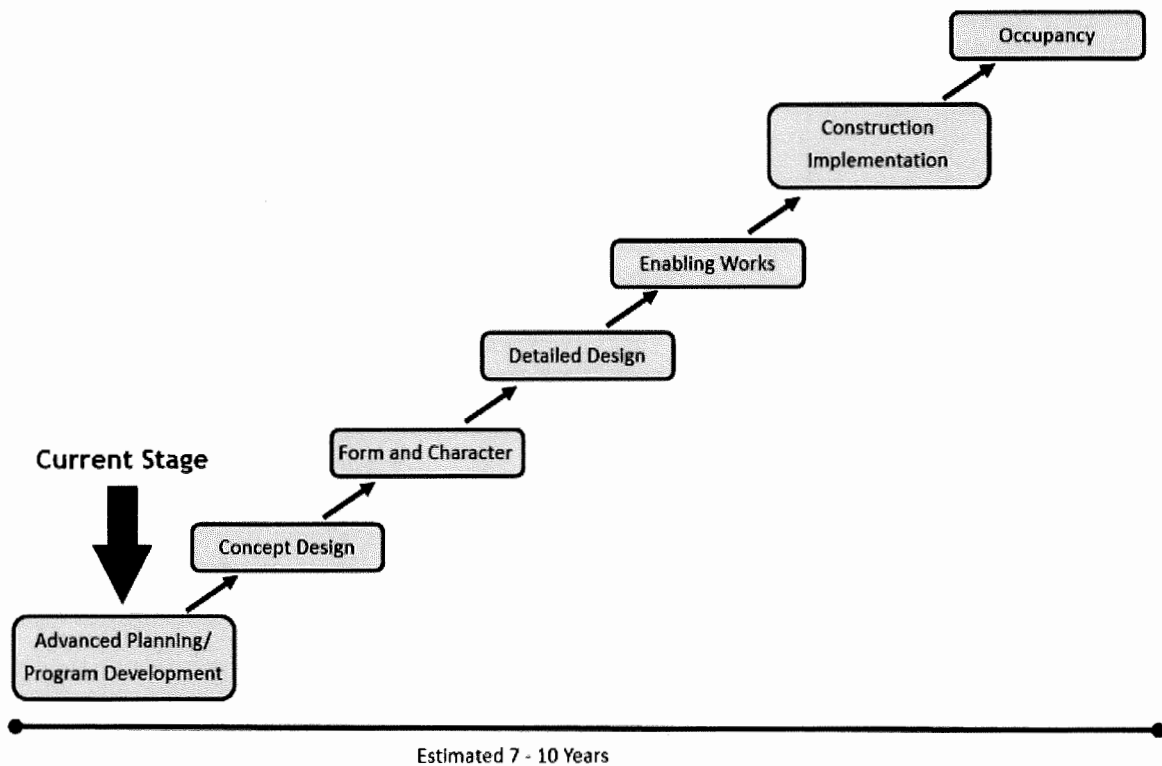
*3.4 Ensure civic infrastructure, assets and resources are effectively maintained and continue to meet the needs of the community as it grows.*

### Background

It is estimated that the Project will be delivered in multiple phases over 7 to 10 years during which full operations will be maintained.

The Project is in the Advanced Planning/Program Development stage, which is the initial stage in the delivery of a major facility project as illustrated in Figure 1 below. Advanced Planning/Program Development is an iterative and involved process that determines the space requirements, budget, schedule and phasing plans.

Figure 1: Major Facility Project Stages



### Advanced Planning

The existing Works Yard facilities and infrastructure do not meet modern building code standards, are not constructed to post-disaster standards and are constructed below current flood plain construction levels. These deficiencies will restrict or eliminate the City's ability to respond and recover from a significant seismic or flood event, as those events would likely damage the Works Yard to an extent that would make it inoperable and possibly unsalvageable for an extended period.

### Post-Disaster Building Construction

A post-disaster building is defined as necessary for the provision of essential services to the general public in the event of a disaster and include emergency response facilities according to the British Columbia Building Code.

The Works Yard provides a critical role in emergency response during a flood or earthquake due to its vital functions in disaster mitigation and management. The Works Yard serves as a central hub for storing and distributing essential emergency supplies and equipment, including pumps, generators, and heavy machinery. This allows for rapid deployment of resources, ensuring a swift and efficient response to any crisis, serving as a base of operations for emergency personnel, providing a centralized location for coordination, communication, and strategic planning. Additionally, the Works Yard facilitates the maintenance and repair of equipment, ensuring that crucial assets remain operational during the response and recovery phases.

The Works Yard directly supports Richmond Fire Rescue, RCMP, BC Ambulance and other emergency management response needs, by providing essential services to affected City infrastructure (roads, watermains, sewers, dikes, pump stations). Overall, the Works Yard acts as a critical lifeline, supporting the logistical and operational requirements necessary to manage and mitigate the impacts of floods and earthquakes effectively, ultimately protecting lives and minimizing damage.

### Flood Construction Level

Guided by the Council endorsed Flood Protection Management Strategy and supporting Dike Master Plans, the City's perimeter dikes are being raised to a crest elevation of 4.7 m. The Strategy also calls for raising land levels strategically and economically, requiring Flood Construction Levels (FCLs) for new construction, buildings and structures.

The Flood Plain Designation and Protection Bylaw No. 8204 requires all new buildings to be constructed above the flood plain construction level. The designated FCL for the Works Yard site is a minimum of 2.9 m. While this FCL is sufficient to economically address risk to non-essential structures, it does not meet the requirements for a post-disaster facility. It is essential that the Works Yard remain operational in the event of a dike breach or significant flood.

The Dike Master Plan also recommends superdikes, raising the land for approximately 200 m inland of the dike, to decrease flood and seismic risks by increasing the integrity of the dike. The Dike Master Plan Phase 2, endorsed by Council in April 2013, provides an overall strategy for the Thompson Dover area, which includes the Works Yard.

The reconstruction of the Works Yard presents a singular opportunity to raise the site grade to the post disaster level. Building to 4.7 m will ensure that the new Works Yard is floodproofed and will remain operational as a designated departmental operations centre in the event of a natural disaster. Staff recommend that the 4.7 m level be approved as a target for all operational areas, understanding that resolving the detailed design may result in some operational areas being marginally lower than 4.7 m.

### Existing Trees and Berms

Currently the Works Yard site is surrounded by a stand of mature deciduous trees, which provide privacy, shading, beautification and ecological benefits for local wildlife in the area. In addition to the health advantages and natural connections, the existing trees and berms would enhance visual screening and mitigate noise during both construction phases and every day operations.

In alignment with the Council Strategic Plan, the City's Parks and Open Space Strategy and Public Tree Management Strategy, preserving the natural environment of the urban forest around the Works Yard site is essential.

Upon Council endorsement, future upgrades will incorporate the existing trees and berms into the new design of the Works Yard with minimal disturbance (refer to Figure 2).

### Recommended Key Design Parameters

Staff recommend the following Key Design Parameters be approved:

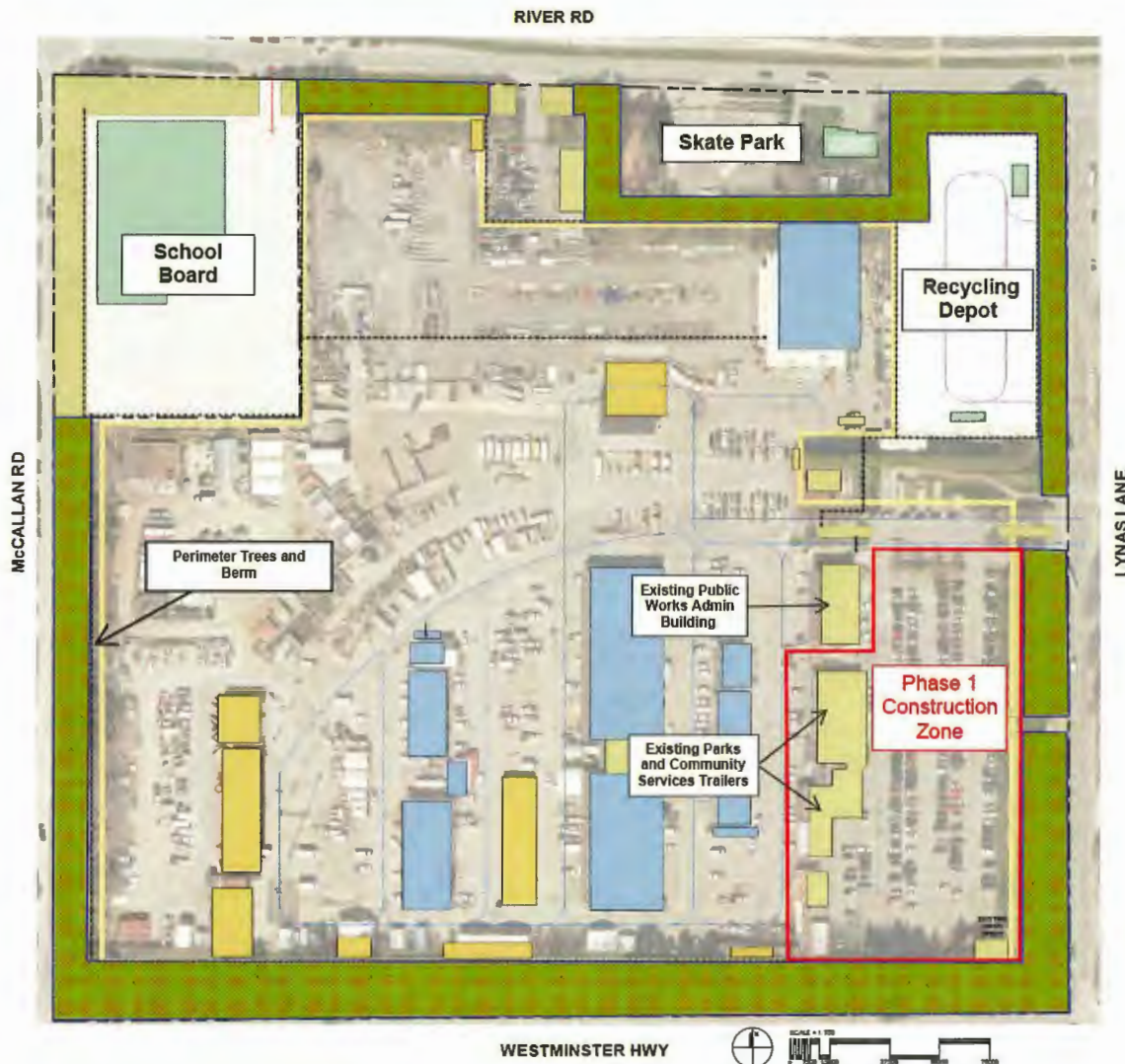
- Construct to post-disaster standard;
- Construct to a Flood Construction Level target of 4.7 m geodetic elevation for all operational areas; and
- Retention of existing trees and berms around the site perimeter.

### **Works Yard Replacement Project – Phase 1**

In order to maintain existing operations at the Works Yard, the Project will be delivered in multiple phases. Refer to Figure 2 for the Phase 1 Construction Zone. The Phase 1 general scope of work includes the following:

- Program confirmation and phasing plan for the entire Project;
- Design and construction: pre-load and ground improvements, civil works, new administration building and staff parkade; and
- Demolition or relocation of existing structures located within Phase 1 works.

Figure 2: Works Yard Site Plan – Phase 1 Construction Zone



Enabling Works

In order to progress with the Phase 1 scope of work for the Project, enabling works are required before construction can commence, including the following:

- Staff parking and existing underground utility services within the Phase 1 Construction Zone must be relocated (in progress);
- Site condition investigation and ground improvement works (in progress); and
- Works Yard Operations Centre Consolidation (completed) – The purpose was to centralize the multiple activities that support ongoing operations, capital projects and emergency responses into a single operations centre for all operations sections. This consolidated approach resulted in additional space being made available to support the Project, including the space needed for the relocation of the staff parking lot (refer to Figures 3 and 4).

Figure 3: Works Yard Operations Centre – *Before Consolidation*



Figure 4: Works Yard Operations Centre – *After Consolidation*



## **Guiding Principles**

On May 29, 2024, the Project and architectural teams engaged with City Directors in a workshop where feedback was collected to inform the development of recommended Guiding Principles for the Project. This approach ensured the incorporation of broad perspectives and contributions from departments throughout the organization for this City-wide Project.

The following Guiding Principles emerged from the workshop which align with the Council Strategic Plan, as detailed in Attachment 1:

- Resilient
- Innovative
- Inclusive
- Connected
- Sustainable

Subject to Council approval, the Guiding Principles will support decision-making and provide overall direction for engagement and design development throughout the multi-phase Project. Additionally, they will inform and support the Project's iterative and progressive engagement plan, currently in consultation with the architectural team.

## **Project Engagement**

The Project team has delivered numerous presentations to City staff groups and Richmond School District, as well as optimized opportunities to engage through training programs, departmental workshops and the Capital Projects Open House.

Formal and informal communication, engagement and collaboration are ongoing throughout enabling works, relocation projects, and programming and design workshops amongst user groups. Engagement strategies include broad, comprehensive communicative approaches such as workshops, information sessions, digital tools, activities and events to share and collect key information, ideas, considerations, opportunities and challenges.

Engagement will continue through a wide range of initiatives to provide regular Project updates and foster involvement. Staff, stakeholders, user groups, adjacent groups and the community will be actively encouraged to ask questions and share feedback.

The following engagement initiatives are scheduled for Q3 2024 and include:

- Interactive internal engagement workshops with all Works Yard staff to communicate Project updates, gather information and seek input.
- Collaborative public engagement event in neighbouring Dover Park coordinated with the Council approved North Dike Upgrade Project consultation.
- Workshops with appointed stakeholder representatives and the Architects to collect key information from business units and user groups, and provide critical requirements to inform the programming and design.



- Opportunities to communicate project information to City departments, neighbouring residents and adjacent groups including the Richmond School District.
- Space planning preparation, engagement and relocations to facilitate Phase 1 enabling works.
- Engaging and informative activities at the annual Public Works Open House rescheduled to September 7, 2024.

### **Next Steps**


Should Council approve the recommended Key Design Parameters and Guiding Principles for the Project, staff will proceed with engagement initiatives and program development in collaboration with the architectural team and stakeholder input. Detailed Phase 1 program options and recommendations will then be brought forward for Council consideration in fall 2024.

### **Financial Impact**

None.

### **Conclusion**

The Guiding Principles are the result of a collaborative engagement process, serving as a foundational framework, shaping and informing overall direction for engagement and design.



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Att. 1: Works Yard Replacement Project Guiding Principles

# Works Yard Replacement Project

## Guiding Principles

The Guiding Principles will shape, inform and provide overall direction throughout the multi-phase Works Yard Replacement Project.

### Resilient

- Design a post-disaster facility that withstands major events, emergencies and climate change to support staff and the community.
- Ensure the facility and amenities support staff and operational continuity, in order to serve the community 24/7.
- Exemplify leadership in preparedness, reliability, responsiveness and communication.

### Innovative

- Design innovative, functional spaces that meet current and future operational needs of the organization and community.
- Create a unique, inclusive and welcoming facility that reflects Richmond's history, diversity, natural environment and cultural heritage.
- Utilize modern design solutions to accommodate growth, ensure adaptability, enhance functionality and optimize resource use.

### Connected

- Provide staff with the necessary space and resources to effectively and proudly serve the community.
- Demonstrate and promote City programs and services by engaging the community in public-facing spaces.
- Deliver exceptional internal and external customer experiences by ensuring uninterrupted services and clear communication during construction.

### Sustainable

- Demonstrate leadership in sustainability through progressive strategic planning, multi-functional space organization and collaborative design.
- Maximize space usage and enable technological flexibility to enable staff to work efficiently and sustainably.
- Implement sustainable practices into construction and operations, where feasible, prioritizing energy efficiencies and environmental conservation.

### Inclusive

- Design a facility that prioritizes inclusion, wellness and accessibility, fostering a safe and respectful environment.
- Provide flexible spaces that integrate evolving needs while encouraging a sense of belonging for all.
- Create an adaptable space that supports future engagement, participation and service optionality for all users.