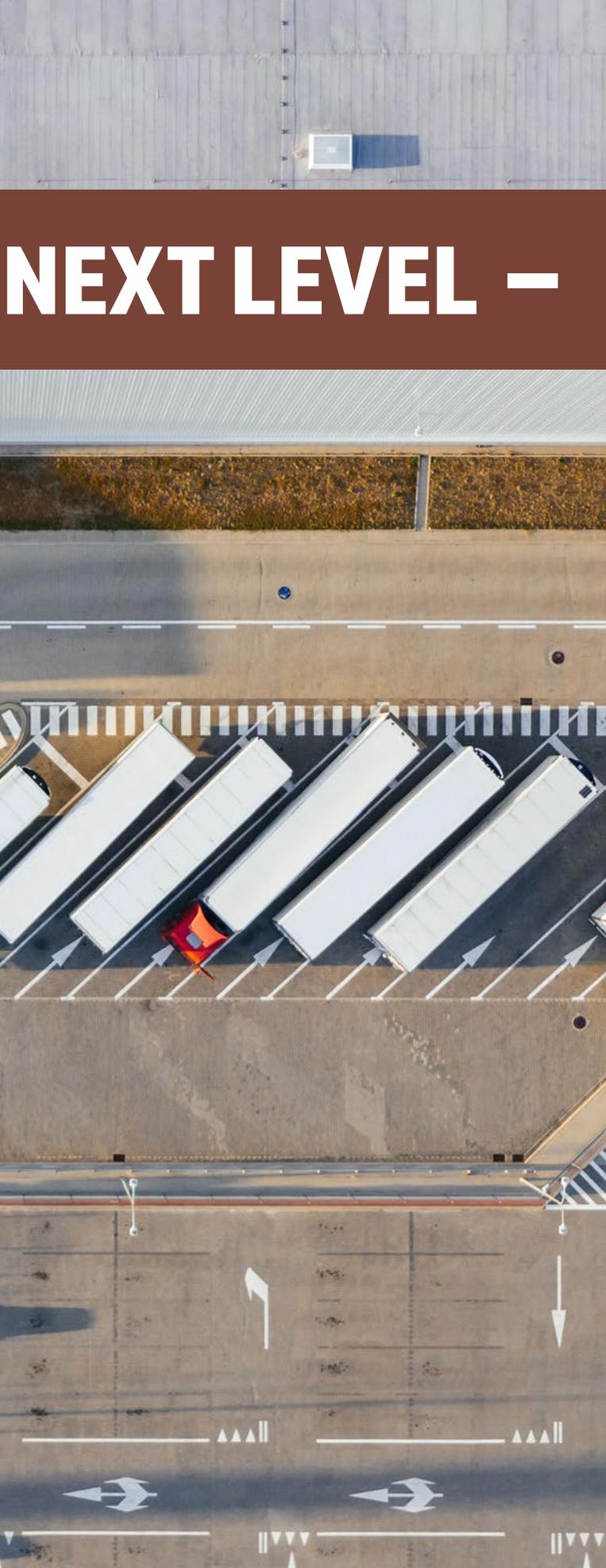




**TO THE**



# NEXT LEVEL –

# LARGE FORMAT MULTI-LEVEL INDUSTRIAL

/ Eric Aderneck RPP, MCIP

The recent trend of industrial intensification started in urban locations, on small high value sites, typically in the form of a four story building. These structures contain very light industrial uses on the ground floor, upper floors of commercial/office space, a level or two of underground parking, and some rooftop amenities, connected via a freight elevator.

At the other end of the industrial spectrum are larger suburban sites (10+ acre), with warehouses for logistics operators that need highway accessibility and space for trucks. These too are now experiencing their own form of intensification.

Typical distribution centres are in large, one-storey buildings sized 400,000-600,000 sq ft with ample maneuvering space for tractor trailers, a high ratio of dock doors, column spacing, and 32-40 ft high ceilings for greater cubic volume. There are relatively small mezzanines and office areas.

The next step is literally going to the next level – two or three story buildings, with a truck ramp to the upper levels, providing the functionality of large floorplate industrial.

High prices for land is an impetus for more efficient use. In geographies with limited industrial land and a strong market demand, firms are faced with the dilemma of either building up or moving out to find more suitable accommodations. The benefits to building up for the wider community are more efficient use of land, less pressures on other limited lands such as agricultural, space to accommodate employment and economic growth, and a more efficient transportation system.

## Challenges Abound

There are a long list of challenges to creating multi-level industrial buildings including unconventional approvals,

## *...firms are faced with the dilemma of either building up or moving out.*

high construction costs, multifaceted designs, and complex structural requirements. These buildings are much heavier which may necessitate foundations with more pre-loading or piling, especially on sites with geo-technical stability and soil condition issues.

Multi-level designs require reinforced columns to support the weight of upper floors, large decks to accommodate truck movements to access loading docks, and code conditions such as fire separation, vertical circulation, and fire truck access need to be satisfied. Building design efficiencies are reduced because of the need for stairs and ramps, tenant operations are impacted by larger columns and smaller grids, and achieving the very high ceilings seen in some modern one-storey buildings may not be possible.

There are also ever increasing sustainability provisions, like insulated walls, LED lighting with motion sensors, storm water treatment, and electric vehicle charging, with some buildings achieving LEED certification.

As for parking, accommodating the needed stalls for workers and fleet vehicles is another challenge. Parking of light vehicles on the roof can be an option, although it requires ramp access and additional structural support. Some developers have explored placing parking in a deck between the upper and lower levels to achieve structural efficiencies. Sites with a slope offer the opportunity to have the building's lower level accessed from one side and the upper level from another side, thereby eliminating the need for ramps.

Construction costs on a building could be 2.5 times higher than traditional development. Longer application processing timelines for complex developments elevate the project risk and financing profile.

Furthermore, multi-level buildings cannot be delivered in phases over time to meet market demand, but must be built all at once which can be a challenge to pre-lease.

These large spaces are tenanted by distribution facilities operated by retailer or third-party logistics providers. These businesses typically want to invest their capital into the operations rather than real estate, so lease tenure rather than ownership is more common (with the inverse being the case for smaller units, which may be bought as strata pre-sale investments).

Viability requires the availability of large sites, government agency approvals, efficient designs, manageable construction costs, adequate economies of scale, and high rents.

The Metro Vancouver Regional District (MVRD) has been exploring industrial land use issues for decades. Most recently MVRD completed a Regional Industrial Lands Strategy, undertaking a comprehensive regional industrial land use inventory, studying industrial lands intensification, and updating the regional growth strategy to enhance policies to protect and utilize industrial lands.

A novel Trade-Oriented Lands Overlay, for uses such as terminal facilities, distribution centres, and freight forwarding activities serving a national trade function, protects such lands from stratification tenure and small lot subdivision.

The City of Richmond undertook an Industrial Lands Intensification Initiative to document industrial utilization rates and to advance densification. Richmond has a significant amount of port related and logistics uses, and a protected agricultural base. The City seeks to accommodate more industrial activity on a fixed industrial land stock and amended their industrial zones to remove caps on building densities, adjust permitted

uses to remove some non-industrial activities, and add new types of industrial.

In Burnaby, the Riverbend complex by Oxford Properties is one example of large industrial intensification. The two story building on 21-acres has a coverage of 50%, a second floor that is 62% of the first floor. The heated outside ramp has 6.8% grade; there are 739 parking stalls; ceiling height of 32 ft on the ground floor and 28 ft on the second floor. The building is 707,000 sq ft, with a density of 0.8 FAR.

### **Lessons Learned**

To encourage, or simply not inhibit, higher density industrial development, municipalities can consider updating zoning provisions and planning policies to accommodate new built forms. This may mean adjusting density limiters, such as building height and site coverage maximums, and permitting traditional and new industrial uses while prohibiting non-industrial uses.

Policies and practices should be supportive, and possibly even include incentives, such as waiving development charges / fees for industrial floor space on upper levels. Other municipal initiatives could include: bring-to-market strategies, such as help with addressing land assembly, infrastructure servicing, and soil remediation.

On a fixed amount of land, the way to increase industrial capacity is through building up. The industrial sized opportunity to meet the challenge will differ by situation, requiring innovative planning and development solutions. ■

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