Refers Item #6
Public Hearing of September 19, 2017

MEMORANDUM

September 15, 2017

TO: Mayor Robertson and Councillors

CC: Sadhu Johnston, City Manager
Paul Mochrie, Deputy City Manager
Janice MacKenzie, City Clerk
Lynda Graves, Manager, Administration Services, City Manager's Office
Rena Kendall-Craden, Director, Communications
Kevin Quinlan, Chief of Staff, Mayor's Office
Katie Robb, Director, Communications, Mayor's Office
Naveen Girn, Director of Community Relations, Mayor's Office
Gil Kelley, General Manager, Planning, Urban Design & Sustainability
Bill Aujla, General Manager, Real Estate and Facilities Management
Grant Murray, Assistant Director, Administration, Legal Department

FROM: Karen Hoese, Acting Assistant Director of Planning, Vancouver Downtown

SUBJECT: False Creek Flats Plan Implementation: Land Economics and the Establishment of an Amenity Share Contribution Rate in the Bonus Density Districts

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The purpose of this memorandum is to provide Council with additional information used in establishing the Amenity Share Contribution rates for the Bonus Density districts within the False Creek Flats. The contents of the memorandum include the following appendices:

- Appendix A: August 2017. Combined Report: Financial Analysis of Possible Changes to Existing Zoning in the False Creek Flats. Coriolis Consulting Corp.
- Appendix B: September 13, 2017. Proposed Density Bonus Charge for New Rental Residential Density in False Creek Flats. Coriolis Consulting Corp.

Further information from the development community (referenced in Appendix B), which requires consent to release, may be provided by a supplementary memorandum once such consent is provided.

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Sincerely,

Karen Hoese,
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KH/

APPENDIX A

Combined Report:

Financial Analysis of Possible Changes to Existing Zoning in False Creek Flats

August 2017

Prepared for:
City of Vancouver

By:
coriolis
CONSULTING CORP.

Contents

Overview

The City of Vancouver is preparing a new plan for False Creek Flats. This plan will contain land use and urban development policy for this large precinct which is mainly occupied by employment uses.

The planning proposals for the area include policies that will encourage densification of employment uses while continuing to accommodate industrial type uses that are important to the economic base of the City, as well as policies intended to accommodate new residential uses in some parts of the area.

The City retained Coriolis Consulting Corp. to provide market and financial analysis inputs to the planning process. The Coriolis inputs included analysis of the financial implications of the various land use and urban development policies under consideration.

Because the planning proposals evolved over time, Coriolis was asked to provide inputs at different points in the process. As a result, Coriolis produced four different documents at different times. These reports were intended to address specific questions posed by the planning team as policy directions emerged and evolved. Consequently, some of the analysis in the early work was superseded by subsequent analysis, both because the nature of the City policies and questions changed and because in some cases changing market conditions required updates.

The four documents are:

- 23 January 2017, draft report entitled "False Creek Flats Economic Analysis: Evaluation of Proposed Changes to Existing Zoning". This is attached as Part 1.
- 17 March 2017, draft report entitled "Supplemental Review of Possible Zoning Changes in False Creek Flats". This is attached as Part 2.
- 20 March 2017 draft report entitled "Supplemental Review of Possible Zoning Changes in False Creek Flats". This is attached as Part 3.
- 2 May 2017, draft report entitled "Supplemental Review of Possible Zoning Changes in False Creek Flats". This is attached as Part 4.

This document combines all of these reports, in chronological order. There has been some limited editing to the original drafts for continuity.

Part 1

False Creek Flats Economic Analysis: Evaluation of Proposed Changes to Existing Zoning

(23 January 2017)

False Creek Flats Economic Analysis:
Evaluation of Proposed Changes to Existing Zoning

January 2017

Prepared for:
City of Vancouver

By:
coriolis
CONSULTING CORP.

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1.0 Introduction

1.1 Scope

The City of Vancouver has engaged Coriolis Consulting to provide economic analysis inputs to the creation of a new plan for False Creek Flats. This economic analysis has two main components:

- Analyzing the potential redevelopment of the block of City-owned lands near the intersection of Main and Terminal, in order to estimate the ability of these lands to be developed in a way that delivers public benefits that might include: resources that enhance economic development opportunities; amenities that benefit the community or provide social infrastructure; affordable housing; cash that the City can apply to other projects; or some combination.
- Analyzing potential changes to the existing zoning on the employment lands in False Creek Flats, to encourage forms of development that are in line with the emerging vision for how this area could contribute to the local and regional economy.

A separate report covers the analysis for the City-owned lands. This report summarizes our analysis of the potential changes to existing zoning.

1.2 Professional Disclaimer

This document may contain estimates and forecasts of future growth and urban development prospects, estimates of the financial performance of possible future urban development projects, opinions regarding the likelihood of approval of development projects, and recommendations regarding development strategy or municipal policy. All such estimates, forecasts, opinions, and recommendations are based in part on forecasts and assumptions regarding population change, economic growth, policy, market conditions, development costs and other variables. The assumptions, estimates, forecasts, opinions, and recommendations are based on interpreting past trends, gauging current conditions, and making judgments about the future. As with all judgments concerning future trends and events, however, there is uncertainty and risk that conditions change or unanticipated circumstances occur such that actual events turn out differently than as anticipated in this document, which is intended to be used as a reasonable indicator of potential outcomes rather than as a precise prediction of future events.

Nothing contained in this report, express or implied, shall confer rights or remedies upon, or create any contractual relationship with, or cause of action in favor of, any third party relying upon this document.

In no event shall Coriolis Consulting Corp. be liable to City of Vancouver or any third party for any indirect, incidental, special, or consequential damages whatsoever, including lost revenues or profits.

2.0 Emerging Directions for False Creek Flats

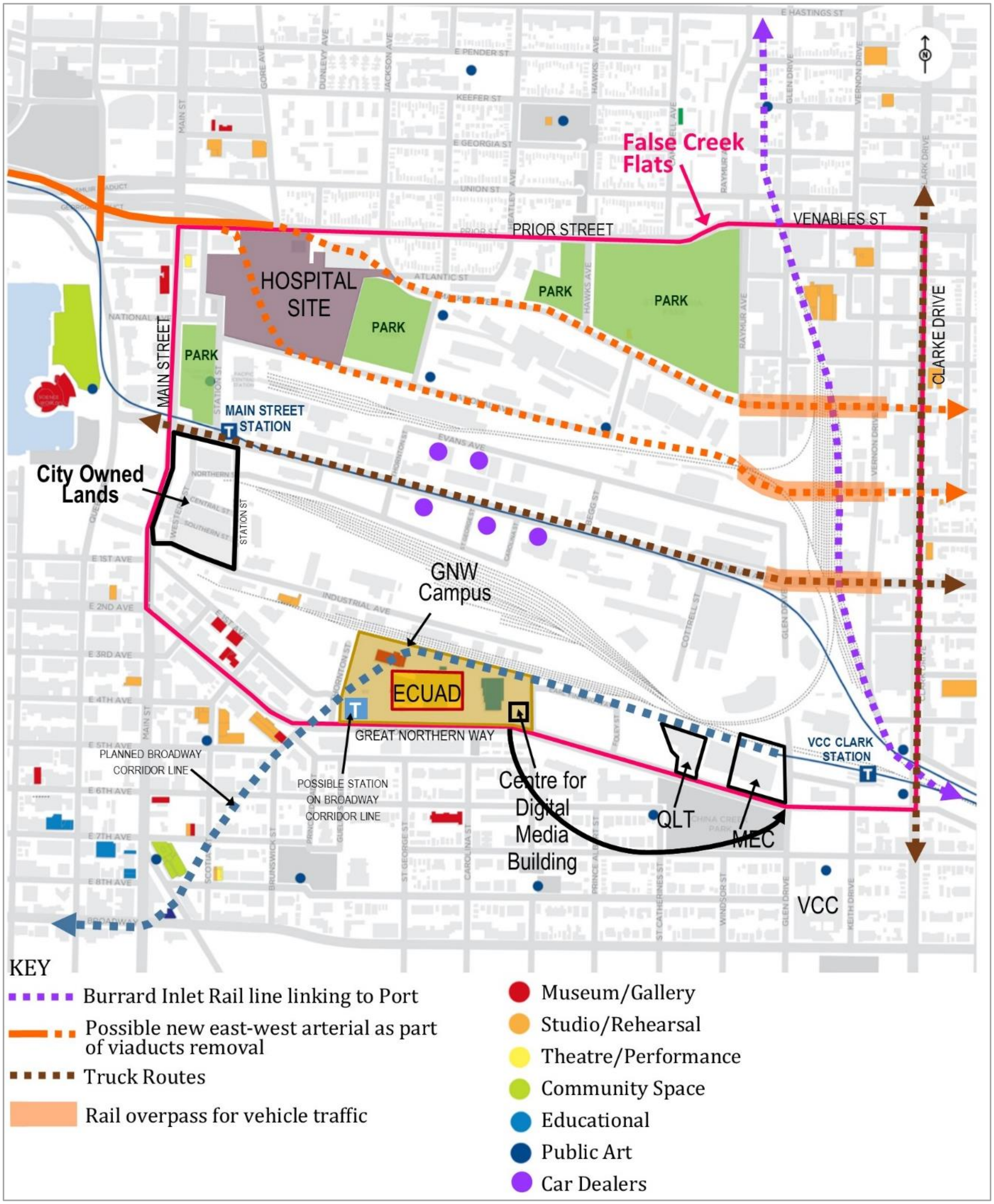
The City of Vancouver is preparing a new plan for False Creek Flats, a large area occupied by a diverse array of employment uses. The need for this new plan has been triggered by recent and impending changes in land use, transportation, and employment in the area. The situation can be summarized as follows:

- The area contains railyard, warehousing, and manufacturing uses that are a key part of the City's industrial employment base. However, the low density, low land values, older buildings, and favourable zoning have also attracted a diverse array of office, retail, technology, arts, and food related business. The area is home to an unusual mix of traditional and new enterprises.
- The new campus of Emily Carr University of Art and Design, currently under construction, and the proposed major health care campus that will replace St. Paul's Hospital will inject new employment and draw new businesses.
- New east-west arterial road routes are likely to be constructed in the area, as part of the road network changes associated with the removal of the Georgia Viaducts.
- Commercial uses, which can pay a large premium for the area's accessibility and centrality, and higher density office uses allowed under existing zoning, are pushing up land values and rents, which can cause difficulty both for the older industries and the newer emerging arts, food, and tech enterprises that have clustered in the area.
- The area has two rapid transit stations and will get a third if the Broadway extension proceeds as planned.
- Some of the land is zoned for residential use, so there is potential for the addition of market housing and social housing in the area.

These changes create opportunities to establish and reinforce new economic clusters (in health, arts, tech, and green technology for example) that offer good quality employment and are consistent with the City's green policy objectives, but accommodating these uses could also put pressure on the older, low density industrial uses which are important to the City's economic base. Adding residential can add to the vitality of the area, help attract businesses, allow people to live and work in the same neighbourhood, and create land value that could fund investments in amenities, although residential use must be carefully planned or it will cause huge upward pressure on land values.

The planning process so far has included extensive public and stakeholder engagement, land use planning and urban design work, Vancouver Economic Commission research, and inputs from Council and various City staff teams including housing, real estate, and planning.

Exhibit 1: Overview of the False Creek Flats



Source: Base map from City of Vancouver, "The Flats Area Profile: An Overview of Your False Creek Flats". Features added by Coriolis Consulting.

A high level economic vision for the area is emerging, with these elements:

- Retain the existing transportation, warehousing/distribution, and service businesses that are vital to the City's economic base and that serve the City's high density office core and residential areas.
- Intensify the use of employment lands, while limiting any impairment of the area's ability to accommodate traditional industrial and service uses.
- Create opportunities for specialized clusters that are particularly suited to the area, such as health, arts, technology, green tech, food processing, materials management/processing, and energy.
- Explore the potential to increase density on lands that allow residential use.
- Use gains in land value, from new uses or more density, to fund public benefits that enhance the area or meet civic objectives. Public benefits might include supports for specific economic clusters, social purpose spaces, contributions to local infrastructure/amenity, or affordable housing.

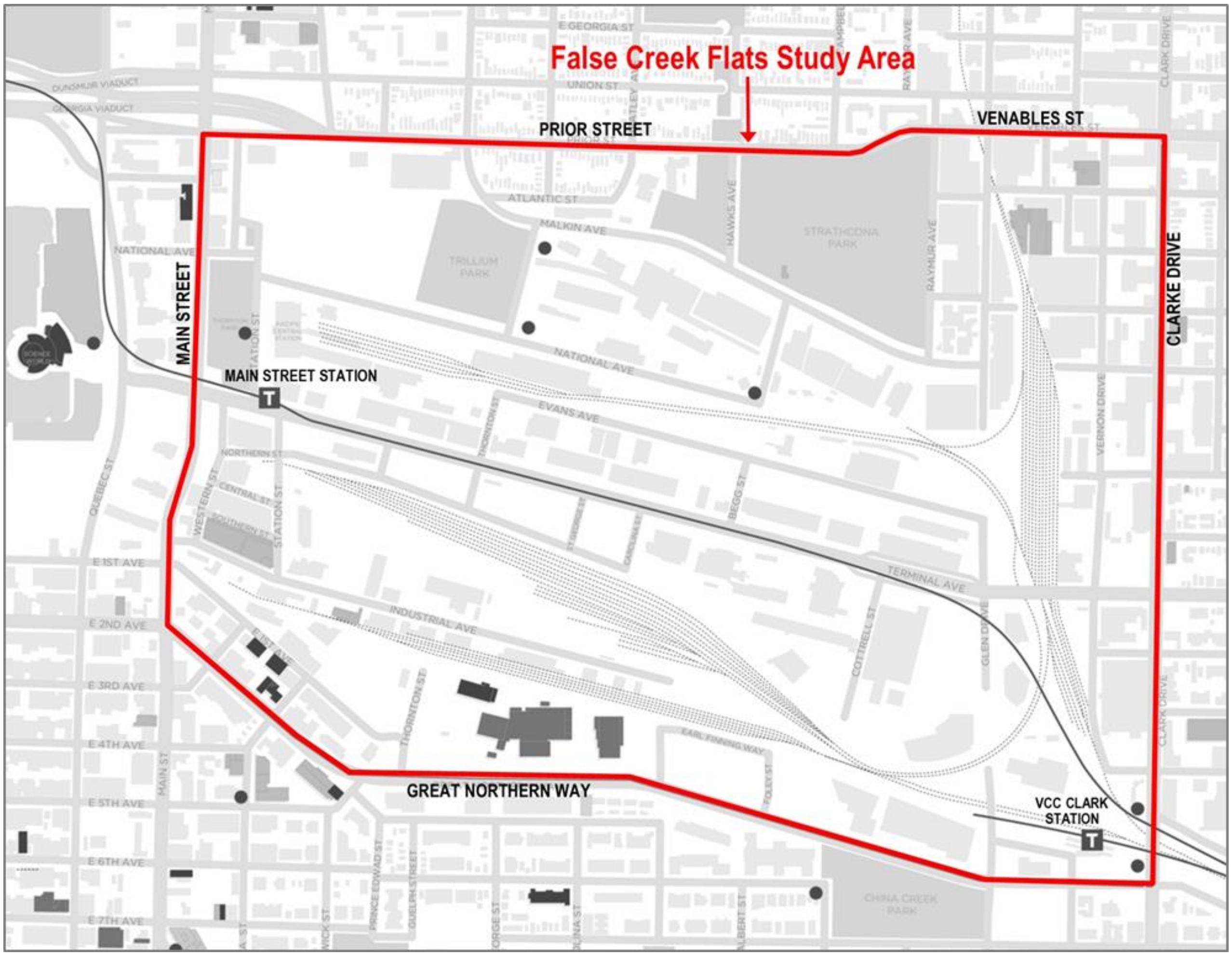
In order to refine this vision and create a detailed plan for the Flats, the City wants to test the financial viability of some of the land use and urban form options that are being explored. The City also wants to test the potential for generating community amenities by allowing higher density in selected locations.

3.0 Study Area

False Creek Flats is a large, diverse employment precinct just east of Downtown. The area is occupied mainly by a mix of industrial and commercial uses and it has well-defined edges, bounded by Main Street on the west, Prior Street/Venables Street on the north, Clark Drive on the east, and Great Northern Way on the south. The area is about 450 acres including roads, or about 367 acres excluding roads, and is estimated to contain over 8,000 jobs.[1]

Exhibit 2 shows the boundaries of False Creek Flats.

Exhibit 2: False Creek Flats Study Area



Source: Base map from City of Vancouver, "The Flats Area Profile: An Overview of Your False Creek Flats" (dots indicate location of public art).

1 The City's False Creek Flats Planning Program website reports that there are about 8,000 jobs in the area, which is a figure that appears to have been generated by Climate Smart Businesses Inc. as part of its work on the False Creek Flats Business Energy and Emissions Profile (BEEP) in January 2015. We note that this figure was calculated by Climate Smart by extrapolating actual employee data gathered through surveys of about one third of the businesses in the Flats and it excludes jobs in 29 transportation and warehousing businesses in the Flats, so we would characterize it as an estimate.

Key features of this area include:

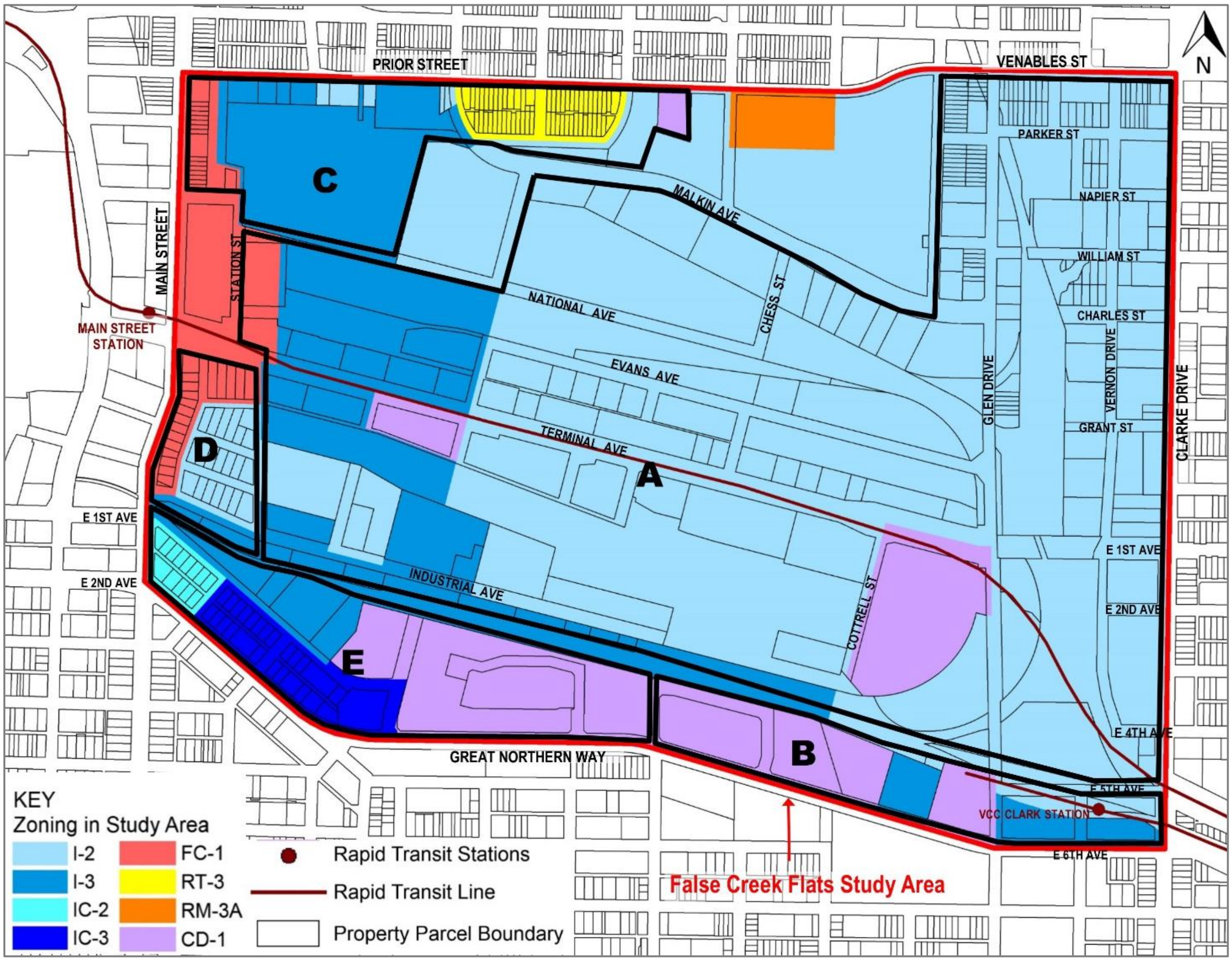
The area's features create an extraordinary opportunity for a mix of residential, commercial, and compatible industrial development that can contribute to a wide range of City economic, social, housing, and environmental objectives. In previous work for the Vancouver Economic Commission[2] we identified this precinct as an opportunity to combine office, retail, restaurant, incubator, arts/cultural, creative manufacturing, amenities, and housing in an intensive, transit-oriented, mixed use urban innovation precinct.

[2] The Future of False Creek Flats: An Economic Vision to Guide a New Area Plan, February 2016, Coriolis Consulting Corp.

4.0 Existing Zoning, Development Trends and Land Values

Current zoning in the False Creek Flats allows a wide variety of light industrial uses and compatible service, high technology, office, and retail uses in several different zoning districts, as well as residential use in a few small pockets. Existing zoning is shown in Exhibit 3.

Exhibit 3: Existing Zoning in the False Creek Flats



Source: Base map is from the City of Vancouver's VanMap system. Zoning is as of February 2016. Areas labelled by Coriolis Consulting.

Exhibit 3 also shows the study area divided into five subareas that have very different characteristics and prospects for future use:

A. This large area contains most of the older transportation, warehousing, light industrial, service commercial, and retail uses as well as new commercial use such as auto dealerships. There are few new office developments and some older industrial buildings occupied by new uses including arts, culture, craft brewery, food and others. This part of False Creek Flats has a wide variety of employment in a wide variety of sectors that are industrial or service oriented.

B. This area has been developed with higher density office use. These office users could have been in higher density locations (e.g. downtown or Broadway) but they took advantage of I-3 zoning to create a business park form.

C. This area is earmarked for the new health care precinct focused on the new St. Paul's Hospital.

D. This area is a very special and different precinct. All the land is owned by the City, the parcels are small, there is fine grained street network, and some of the land is zoned to allow high density residential use.

E. This area is eclectic. The new ECUAD campus is being built here, there is mix of older service commercial and industrial uses, and some sites are zoned to allow live-work residential use.

Existing zoning, development patterns, and land are summarized in Sections 4.1 to 4.4.

4.1 Lands Zoned I-2

Existing Zoning

The intent of the I-2 zone is to allow industrial and other uses that are normally incompatible with residential land use, but not uses that are potentially dangerous. Uses in the I-2 zone are intended to provide employment, services, and other uses that are essential for the city to function as well as some office, and retail uses. The maximum density permitted in the I-2 zone is FSR 3.0, although there are restrictions on the amount of floor space that can be occupied by specific uses. Because of these restrictions and because of strong commercial interest in parcels with frontage on major roads, the full density of the I-2 zone is not usually obtained. Some of the I-2 lands in the study area (at the western end) are in the False Creek Flats Rezoning Policy Area, which permits additional general office use up to FSR 3.0. A copy of the Policy is included in Appendix 1 along with the I-2 zoning district schedule.

Development Pattern

The I-2 zone is largely occupied by older low density industrial uses, but there has been some recent development on vacant land along Terminal Avenue. In areas of the I-2 zone that are in the False Creek Flats Rezoning Policy Area, most new projects have elected to rezone in accordance with the Policy and develop into general office at the maximum density. On I-2 sites located outside the Policy Area, most sites have developed into new vehicle dealerships. Sites with good exposure such as those along Terminal Avenue seem to be preferred, although a few I-2 sites with less exposure, such as along Evans Avenue, have also been popular for vehicle dealer development. The true industrial uses in the study area (transportation, warehousing, light manufacturing) are in older buildings. Most new development is not industrial in character and is using the potential in the I-2 zone (or rezoning to I-3 where applicable) to accommodate higher value uses such as office, commercial, or mini storage.

Land Values

For sites located in the False Creek Flats Rezoning Policy Area, the highest and best use is to rezone in accordance with the policy and develop an FSR 3.0 office building. The land value in this zone that is supported by office at FSR 3.0 is about $15 million per acre (see Appendix 3, Attachment 1 for additional details).

For I-2 sites located outside the False Creek Flats Rezoning Policy Area, the highest and best use for the sites is to develop auto-oriented retail development. Auto-oriented retail uses can pay retail land prices and outbid industrial uses for land. The land value supported by I-2 development (excluding car dealership or rezoning to I-3 office at FSR 3.0) would likely be in the range of $3 million to $4 million per acre if land values were really constrained by the need to accommodate industrial use with firm limits on retail and office space. However, the non-industrial uses (particularly car dealership) have pushed up land values beyond what is affordable for industrial use.

Challenges

The challenge in the I-2 zone is that it is intended to accommodate industrial use, but whenever possible the market has taken advantage of opportunities for retail, service, or office uses. Under existing zoning, over the long term it will be increasingly difficult for low density transportation, warehousing, and light manufacturing use to remain here because of rising land values.

4.2 Lands Zoned I-3

Existing Zoning

The intent of the I-3 zone is to allow technology office and related uses along with other traditional light industrial uses. This district also allows a limited amount of cultural, recreational, and service uses. Residential is only permitted as an accessory use. The maximum density permitted in the I-3 Zone is FSR 3.0, though there are some restrictions on the amount of floor space that can be occupied by some uses. The I-3 zoning district schedule is attached in Appendix 1.

Development Pattern

The I-3 zoned land in the study area is mostly occupied by lower density industrial and service buildings. There have been some new developments including office projects, a music instrument sales and education centre, and a one storey, fast food use.

Land Values

The highest and best use for I-3 sites is to develop an FSR 3.0 office building. Existing land values in this zone are estimated to be about $15 million per acre. For additional details on existing land value in the I-3 zone, see Appendix 3, Attachment 7.

Challenges

This area has come to be seen as a retail and office district, with little “industrial” use except where land is occupied by long term transportation use that has no option but to remain. Under existing zoning, future development will likely be entirely office and commercial. It is unlikely that much new industrial space will be constructed.

4.3 Lands Zoned IC-3

Existing Zoning

The intent of the IC-3 zone is to allow a mix of light industrial, arts, theatre, residential, and related uses. Limited service, office, and retail uses compatible with the primary uses are also permitted. The maximum permitted density is FSR 3.0, but there are floor space restrictions for some of the allowable uses. The IC-3 zoning district schedule is attached in Appendix 1.

Existing Development Pattern

The IC-3 zoned land in the study area is mostly occupied by older low density service and industrial buildings. The most recent development is a live/work residential development for artists.

Existing Land Value

The highest and best use for existing IC-3 zoned sites is to develop an FSR 3.0 mixed-use building with a mix of live/work artist's lofts (using FSR 2.5) and some retail and office space. Existing land value in this zone is estimated to be about $38 million per acre, which is driven by high residential land values. For additional details on existing land value in the I-2 zone, see Appendix 3, Attachment 8.

4.4 Lands Zoned IC-2

Existing Zoning

The intent of the IC-2 zone is to allow light industrial uses that are compatible with adjacent residential and commercial districts This district also allows a limited amount of arts, culture, retail, office and service uses. Residential is permitted only as an accessory use. The maximum allowable density is FSR 3.0. The IC-2 zoning district schedule is attached in Appendix 1.

Existing Development Pattern

Only a few parcels in the study area are zoned IC-2 and they are occupied by older low density service and industrial buildings. There has been no recent development in this zoning district.

Existing Land Value

While this zone allows up to FSR 3.0, only FSR 1.0 is available for non-industrial use. Based on existing allowable uses, the highest and best use for existing IC-2 zoned sites is to develop an FSR 1.0 mixed-use building with office and retail uses, because new industrial space is likely to only work on the ground floor and does not support much land value. Sites zoned IC-2 in the study area are well located for retail and office use and have good exposure to Main Street and East 2nd Avenue. The allowable uses in this zone support a land value of about $5.0 million million per acre. See Appendix 3, Attachment 9. Aggressive assumptions about retail or service commercial rents might push this value to $7.0 million.

However, sites in this zone are assessed at between $20 million and $25 million per acre and there has been at least one transaction over $15 million per acre. These values suggest that the market is pricing in expectations about rezoning (presumably including residential expectations, given these numbers).

5.0 Proposed Zoning Changes and Financial Impacts

To better align existing zoning and the future planning direction for the False Creek Flats, the City is considering various potential changes to key zoning districts in study area. The City is interested in how these changes may impact future development prospects in the False Creek Flats and has asked Coriolis Consulting to evaluate the potential changes. We evaluate the financial impact of each proposed change in each zoning district in the sections that follow. For details on the major assumptions used in the financial analysis, see Appendix 2.

Our financial analysis has these main components:

- We estimate the market value of the lands under existing zoning/policy.
- We then estimate the market value of the lands based on the proposed changes considered by the City to identify impacts.

The methodology for the financial analysis is as follows:

- For each type of zoning, we estimate the land value (in dollars per square foot of buildable space) supported by the highest and best use under existing zoning/policy. These land values are estimated using use pro formas that calculate residual land value, calibrated and confirmed using sales evidence for similar development sites. These land residuals assume that developers pay all normal costs and fees and assume that all uses (including rental housing) require provision for developer profit.
- For each proposed change to the existing zoning, we then estimate the impact on existing land value. For proposed changes that negatively impact land value, we also calculate the break-even density that would be required to result in no loss in land value.

The results of the financial analysis are shown by zoning district.

5.1 Possible Changes in I-2 Zone

1. Expanding allowable uses to Include Creative Manufacturing, Performance Venue, Restaurant, Cabaret, or Hall

Some of these uses already occupy light industrial areas in the City including the False Creek Flats, indicating that some of these users can pay market rent. We were unable to find any evidence that some of these uses (such as creative manufacturing), would be willing to more than light industrial market rents. Some of these uses, such as Performance Venues, are unlikely even to pay market rent rates. Increasing the allowable uses to include the above uses will increase flexibility to property owners and contribute the diversity of activity in the area, but is unlikely to result in any financial upside or increase in land value.

2. Requiring new auto-oriented retail to make full use of the density permitted in I-2

Automobile-oriented uses are willing to pay a premium for sites in this area (taking advantage of the area's accessibility, exposure, and centrality), even though they are "under-using" the development potential in the I-2 zone. While an office developer would use the full FSR 3.0, a "retail" user is buying a business site not a development opportunity.

So, the City is considering a revision to zoning that only allows auto uses if the full density is used. This would mean adding light industrial use at grade under the car dealerships (unlikely) or adding office space above the car dealership. The office development entitlements contribute to land value (about $110 per sq. ft. buildable for office) and would generate enough rental revenue to be viable, but auto-oriented retailers do not appear to be financially motivated to tap these development entitlements in the False Creek Flats. Most auto-oriented retail space in the False Creek Flats is currently owner-occupied. It seems likely that these owners are not interested in taking advantage of their unused development potential perhaps because of design and operational constraints inherent in adding new uses on top. It is notable that in locations like Burrard Street some new dealerships have used full development potential, but upper floor use has included residential which generates considerably more revenue than office.

Unless the City stops allowing projects that do not make full use of the allowable density, the current pattern will continue. One option of course is to eliminate auto dealership as allowable use. Failing that, it is reasonable to make this use conditional on using the full FSR, with some type of office or creative manufacturing above the auto use. This policy is not likely to put much pressure on land values, which are being driven by the commercial opportunity, so the policy should be regarded as a means of ensuring full utilization of employment capacity in new development projects.

3. Above Grade Parking

If above grade parking is excluded from FSR, it is likely that some developers will build it because it results in lower construction costs. The value of light industrial space and office space per square foot buildable is higher than the cost savings associated with above grade parking so it is unlikely that any developers building multi-tenant buildings will choose to build above grade parking if it is included in FSR. For additional details on the impact of including above grade parking in FSR, see Appendix 3, Attachment 2.

Allowing above grade parking that is excluded from FSR could make light manufacturing and office uses more attractive by lowering construction costs. This would make these uses more competitive with sole-tenant users such as car dealerships, which have rarely used all the density allowed in the in the I-2 Zone.

4. Roof structures suitable for urban agriculture

We tested the impact of including a requirement for a green roof that can be used for urban agriculture in the I-2 Zone There are 2 major types of green roofs, extensive and Intensive systems. Extensive roof systems have a thin layer of growth media and a basic irrigation system. They also add minimal weight to a roof system so they are the most economical type of green roof to build. Extensive roof systems typically cost between $10-$30 per square foot. Intensive roof systems have a thicker growth media layer and a more advanced irrigation system. Intensive roof systems increase the load on the roof structure and use more materials, so they typically cost between $30-$150 per square foot to build. For rooftop space to accommodate urban agriculture, we assume an intensive green roof system would need to be used. It is also important to note that multi-storey buildings involve less cost to add a green roof system because the structure is already designed to carry the load of multiple floors. Single storey industrial buildings involve more cost to add a green roof system because they have large unsupported spans that only need to support the roof structure. This does not factor in some of the added financial benefits of a green roof system, which include:

1. Lower building heating and cooling costs.
2. Longer roof membrane life due to growth media shielding the membrane from ultraviolet light exposure and temperature fluctuations.
3. Revenue from urban farming potential.

There are also some added costs that need to be considered, which include:

1. Ongoing maintenance costs.
2. Higher replacement costs when the roof membrane has reached the end of its useful life.

Overall, there is likely to be a significant capital cost increase from requiring developers to include roof structures that are suitable to accommodate urban agriculture. The added financial benefits from a green roof system are mostly offset by increased operating costs.

We estimate that a developer would need approximately FSR 0.2-0.7 of bonus office density to offset the capital cost of providing a green roof structure. For additional details on the impact of requiring roof structures suitable for urban agriculture, see Appendix 3, Attachment 3 (low cost scenario) & Attachment 4 (high cost scenario).

5. Art, light Industrial, Incubator, and Food Production Space

There is evidence that art, light industrial, incubator, and food production are already occupying older industrial space in the study area, indicating that at least some of these kinds of users can pay market rents (which are lower in older buildings). Because we rarely see these uses outside industrial areas, it is unlikely that these kinds of tenants can pay more than industrial lease rates. Requiring these uses in any new development imposes restrictions that may negatively impact project performance and land value, such as:

- Smaller prospective tenant pool which could lead to longer lease-up times and increased vacancy.
- In areas of the I-2 district where the False Creek Flats Rezoning Policy allows office uses with rezoning, there will be a negative impact on revenues because office space is a more valuable land use.
- Some of these uses may be incompatible with uses already permitted in the I-2 zone.

The amount of additional density that would need to be granted to offset requiring these uses is dependent on the amount of space that would be required. For the purposes of this analysis, we assume one floor of the building would be required to accommodate these uses. We estimate that an additional FSR 1.2 of office would need to be granted to offset the loss of office/auto-oriented retail floor space to one of these required uses. For additional details on the financial impact of requiring these specific uses, see Appendix 3, Attachment 5.

6. Re-thinking I-2, including eliminating auto dealership, eliminating rezoning to office at FSR 3.0, and requiring industrial use at grade.

Another option being considered is to retool the I-2 zone to reduce office and commercial use that could be in other locations. The intent would be to protect the capacity for industry, certain kinds of tech uses, creative manufacturing, and other employment uses that cannot afford to locate in denser office and commercial settings.

Assuming the intent is to restructure the zone in favour of the desirable employment uses without causing a dramatic reduction in land value, we tested the implications of a building form in which the ground floor must be used for industrial use and the upper floors can be used for creative manufacturing, tech uses, and office uses. We estimate that requiring FSR 1.0 of industrial plus an FSR 3.25 of upper floor employment space will support a land value of about $15 million, similar to office at FSR 3.0. For additional details, see Appendix 3, Attachment 6.

So, in our view it is reasonable to consider an approach to zoning that limits ground floor commercial, requires ground floor industrial, and adds more upper floor office and creative uses to compensate, resulting in about FSR 4.25.

5.2 Changes in the I-3 Zone

1. Allowing Health/Medical-Related office uses in addition to existing permitted office uses.

We evaluated the impact of allowing health/medical-related office in addition to existing office uses permitted in the I-3 Zone by looking at the office market surrounding other major hospitals in the region and comparing them nearby office districts that are not adjacent to the hospitals. The office locations we looked at include:

1. The area surrounding Surrey Memorial Hospital and Surrey City Centre.
2. The area surrounding St. Paul's Hospital and the adjacent downtown office area.
3. The area surrounding Vancouver General Hospital and the Broadway Corridor office market.

We made these observations:

1. Office lease rates in buildings adjacent to hospital precincts were comparable in similar buildings located in a nearby office district outside hospital precinct.
2. Office buildings located adjacent to hospital precincts had a mix of tenants including non-health/medical related tenants. This suggests that there is no significant rent premium to be adjacent to a hospital precinct, otherwise non-health/medical tenants would likely locate elsewhere.

Overall, allowing health/medical-related office use in addition to the existing permitted office uses in the I-3 district is unlikely to have a significant financial impact on office land values. However, allowing a broader use of tenants is likely to increase demand and the pace of development in I-3 zone, especially around the hospital precinct, where we expect a large share of the tenants to be health/medical-related.

2. Other Changes

The City is considering changes similar to those reviewed in points 1 through 5 in section 5.1 (I-2 zone). The analysis is the same, so the conclusions are the same.

1. Re-thinking the I-3 zone to require industrial use.

The City is also considering changing the I-3 zone to remove the possibility of all general office to a density of FSR 3.0. The City is considering requiring industrial use (presumably at grade) and restricting the uses on the upper floors.

We estimated the amount of space that would be needed to offset the impact of requiring ground floor industry. We estimate that a building with FSR 1.0 of industry plus FSR 3.25 of upper floor space aimed at a variety of uses (creative manufacturing, lab, tech, some general office) would be similar in land value terms to existing I-3 office development at FSR 3.0.

Therefore, we think it is reasonable to consider requiring ground floor industry and compensating by increasing the capacity for upper floor employment uses.

5.3 Changes in the IC-3 Zone

Implications of Requiring Rental Residential Use

The City is exploring the implications of requiring rental residential instead of the existing live/work strata that is already permitted in the IC-3 zone. We tested both market rental and Rental 100 rents (at 2016 maximum rents) instead of live/work strata residential and there is a significant decrease in land value at the existing allowable density. Live work strata in this location is estimated to be worth approximately $325 per sq. ft. buildable, while market rental is estimated to be about $170 per sq. ft. buildable (See Appendix 3, Attachment 10) and Rental 100 is estimated to be about $115 per sq. ft. buildable (See Appendix 3, Attachment 11) using 2016 Rental 100 rates (note: these rates are scheduled to be increased in 2017, which will affect land value). To recover this loss in value, about 1.9 square feet of market rental and 2.7 square feet of Rental 100 floorspace would be needed to break even with each square foot of existing live/work strata that is permitted.

5.4 Changes in the IC-2 Zone

Implications of Allowing Market Rental Use in Addition to Required Employment Accommodating Uses

The City is considering allowing market rental housing in the IC-2 zone if ground floor employment accommodating uses currently allowed in the IC-2 zone are part of the redevelopment. Our analysis shows that this creates additional land value (about $115 to $170 per sq. ft. buildable) and could potentially create incentive for developers to redevelop IC-2 zoned sites sooner with new employment accommodating floorspace. There is market interest in developing rental units and demand for rental units is high, with vacancy rates below 1% in Mount Pleasant over the last 5 years according to CMHC[3]. It is our view that allowing rental use on the upper floors in the IC-2 zone will help create needed rental stock, encourage the redevelopment of existing older, low density industrial with new employment accommodating floorspace, and add residents that will support local businesses and increase the evening population of the neighbourhood.

[3] Data retrieved from the CMHC Housing Portal, available online at: https://www03.cmhc-schl.gc.ca/hmiportal/en/#Profile/1/1/Canada

6.0 Appendix 1: Zoning Districts

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City of Vancouver ***Land Use and Development Policies and Guidelines***

Community Services, 453 W. 12th Ave Vancouver, BC V5Y 1V4 • ·604.873.7344 fax 604.873.7060
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FALSE CREEK FLATS REZONING POLICY: ADDITIONAL GENERAL OFFICE USE IN "HIGH TECHNOLOGY" DISTRICTS

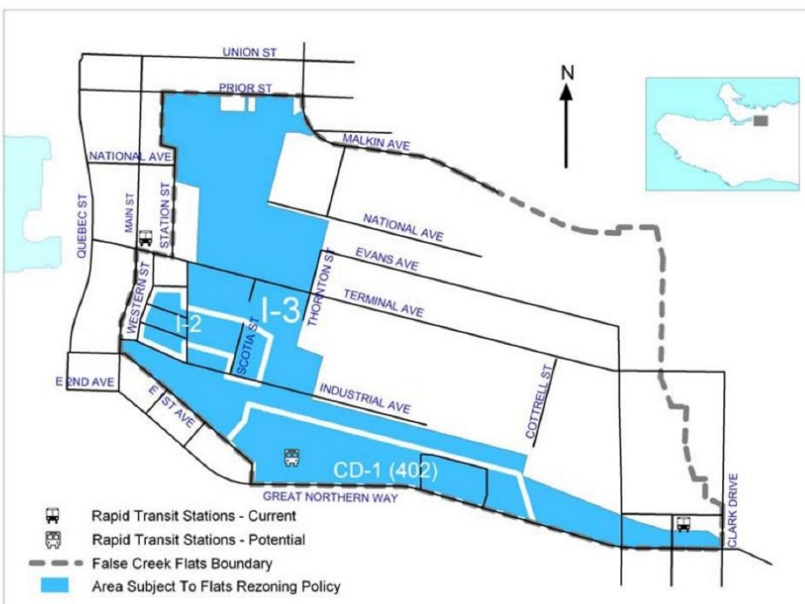
(I-3, Great Northern Way Campus CD-1 (402) and portions of I-2)

Adopted by City Council on April 7, 2009

1 Application and Intent

The intent of this policy is to provide guidance for broadening the range of permitted office uses in areas zoned for high technology in the False Creek Flats ("the Flats"), while providing opportunities to intensify employment near existing or potential rapid transit.

This rezoning policy applies to all sites in the I-3 district and within the Great Northern Way Campus CD-1 (402). The policy also applies to a limited number of sites zoned I-2 in the western Flats near existing rapid transit. These areas are identified in the map below:



April 2009

2 Rezoning for General Office Use

Rezonings that include general office use may be considered under the following conditions:

- General office use may be permitted up to the maximum overall density permitted in the existing zoning district. Modest increases in density may be considered where the form of development reflects the urban design parameters and the height and massing specifications in the relevant District Guidelines.
- The site should be within realistic walking distance of an existing rapid transit station, or station anticipated to be constructed within a reasonable time. In recognition of the difficult pedestrian connectivity in the Flats resulting from a limited road network and extensive rail yards, pedestrian routing with viable, existing pedestrian linkages to the rapid transit station must be demonstrated.
- Rezonings in the I-3 and western I-2 areas should adhere to urban design and built form guidelines of the I-3 District Guidelines, parking regulations that apply to the existing zoning district, as well as other relevant Council-approved policies.
- Rezonings for sites within CD-1 (402) should adhere to the urban design and built form guidelines of the Great Northern Way Technology Park CD-1 Guidelines, parking regulations that apply to the existing zoning district, as well as other relevant Council-approved policies.
- Rezonings in "High Technology" Districts (I-3, Great Northern Way Campus CD-1 (402) and western portions of I-2) should consider installing hydronic heating systems to be neighbourhood energy utility compatible.

3 Compatible Uses

Rezonings may include uses that are currently permitted in the existing zoning district, including compatible industrial uses. Rezonings may also include uses that are supportive of the needs of area employees such as child care, local area serving restaurants and other relevant services.

I-2 District Schedule

1 Intent

The intent of this Schedule is to permit industrial and other uses that are generally incompatible with residential land use but are beneficial in that they provide industrial and service employment opportunities or serve a useful or necessary function in the city. It is not the intent, however, to permit uses that are potentially dangerous or environmentally incompatible when situated near residential districts.

2 Outright Approval Uses

2.1 Subject to all other provisions of this By-law, including the additional regulations in section 11.3 of this By-law, and to compliance with section 2.3 and the regulations of this Schedule, the uses noted in section 2.2 shall be permitted in this District and shall be issued a permit.

2.2 Uses

2.2.A

- Accessory Buildings customarily ancillary to any of the uses listed in this Schedule, exept that:
  - (a) an accessory building must not exceed 4.6 m in height, and must not exceed 3.7 m in height measured to the highest point of the roof if a flat roof, to the deck line of a mansard roof, or to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof;
  - (b) not applicable [Location]
  - (c) an accessory building's total floor area, measured to the extreme outer limits of the building, must not exceed 10% of the total area of the site.

- Accessory Uses customarily ancillary to any of the uses listed in this section, but not including accessory retail use in conjunction with wholesale uses listed in Section 2.2.W, provided that, unless permitted as an outright approval use pursuant to Section 2.2 of this schedule, the total floor area of all accessory uses is not greater than 33 ⅓ percent of the gross floor area of the principal and accessory uses combined, and provided that the floor area in accessory retail use is separated by a wall from the floor area in other uses which shall be inaccessible to the general public.

2.2.C [Cultural and Recreational]

- Artist Studio – Class A, provided that the use must not be combined with a Residential Unit, the change of use must only apply to floor area existing as of February 26, 2013, and any additions are limited to no more than 10 percent of existing floor area.

- Artist Studio – Class B, provided that the building contains no dwelling use other than a caretaker dwelling, the change of use must only apply to floor area existing as of February 26, 2013, and any additions are limited to no more than 10 percent of existing floor area.

- Arts and Culture Indoor Event.

2.2.M [Manufacturing]

- Bakery Products Manufacturing.
- Batteries Manufacturing.
- Chemicals or Chemical Products Manufacturing - Class B.

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- Clothing Manufacturing.
- Dairy Products Manufacturing.
- Electrical Products or Appliances Manufacturing.
- Food or Beverage Products Manufacturing - Class B.
- Furniture or Fixtures Manufacturing.
- Ice Manufacturing.
- Jewellery Manufacturing.
- Leather Products Manufacturing.
- Machinery or Equipment Manufacturing.
- Metal Products Manufacturing - Class B.
- Miscellaneous Products Manufacturing - Class B.
- Motor Vehicle Parts Manufacturing.
- Non-metallic Mineral Products Manufacturing - Class B.
- Paper Products Manufacturing.
- Plastic Products Manufacturing.
- Printing or Publishing.
- Rubber Products Manufacturing.
- Shoes or Boots Manufacturing.
- Software Manufacturing.
- Textiles or Knit Goods Manufacturing.
- Tobacco Products Manufacturing.
- Transportation Equipment Manufacturing.
- Wood Products Manufacturing - Class B.

2.2.R [Retail]

- Gasoline Station - Full Serve, subject to the provisions of section 11.10 of this By-law.

2.2.S [Service]

- Animal Clinic.
- Catering Establishment.
- Laboratory.
- Laundry or Cleaning Plant.
- Motor Vehicle Repair Shop.
- Motor Vehicle Wash.
- Photofinishing or Photography Laboratory.
- Production or Rehearsal Studio.
- Repair Shop - Class A.
- School - Vocational or Trade.
- Sign Painting Shop.
- Work Shop.

2.2.T [Transportation and Storage]

- Cold Storage Plant.
- Packaging Plant.
- Storage Warehouse.

2.2.U [Utility and Communication]

- Public Utility, on a site not less than 61.0 m from any R district.
- Radiocommunication Station.

2.2.W [Wholesale]

- Wholesaling - Class A.

2.3 Conditions of Use

2.3.1 No use listed in section 2.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site of explosives, fireworks, ammunition, matches, or flares; radioactive material; coal tar products or derivatives; or, except for a full serve gasoline station, compressed gas or petroleum.

2.3.2 No use listed in section 2.2 of this Schedule shall involve the bulk storage, other than wholly within a completely enclosed building, of lime; fertilizer; toxic or corrosive chemicals or acids; flammable liquids or solids; scrap or junk; rags or cotton waste; fungicides, herbicides or pesticides; paint, varnish, oil shellac or turpentine; grain, hops, or sugar; fish, fish oil or meal, animal oil or fat, or vegetable oil.

2.3.3 No use listed in section 2.2 of this Schedule, except for an animal clinic or laboratory, shall involve the keeping of live animals, live poultry or other fowl.

2.3.4 No use listed in section 2.2 of this Schedule, except for a full serve gasoline station, shall involve the storage of goods or materials other than wholly within a completely enclosed building.

3 Conditional Approval Uses

3.1 Subject to all other provisions of this By-law, including section 3.3.3 and the additional regulations in section 11.3 of this By-law, and the provisions and regulations of this Schedule, the Development Permit Board may approve any of the uses listed in section 3.2, subject to the conditions of use in section 3.3, and including such other conditions as it may decide, provided that it first considers:

(a) the intent of this Schedule and all applicable policies and guidelines adopted by Council; and
(b) the submission of any advisory group, property owner or tenant.

3.2 Uses

3.2.A
- Accessory Buildings to any of the uses listed in this Schedule, except as provided for in section 2.2.A of this Schedule.
- Accessory Uses to any of the uses listed in this Schedule, other than as provided for in section 2.2.A of this Schedule.

3.2.AG [Agricultural]

- Urban Farm - Class B, subject to the provisions of section 11.30 of this By-law.

3.2.C [Cultural and Recreational]

- Artist Studio - Class B, subject to the provisions of section 11.18 of this By-law, and provided that the change of use applies to floor area existing as of February 26, 2013 and additions are limited to a maximum of 10 percent of the existing floor area.
- Community Centre or Neighbourhood House.
- Marina.
- Park or Playground.

3.2.D
- Deposition or extraction of material so as to alter the configuration of the land.

3.2.DW [Dwelling]

- Dwelling Unit for a caretaker or watchman or other person similarly employed, if such dwelling unit is considered to be essential to the operation of the business or establishment.
- Residential Unit associated with and forming an integral part of an Artist Studio - Class B, subject to the provisions of section 11.19 of this By-law.

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3.2.I [Institutional]

- Ambulance Station.
- Child Day Care Facility.
- Public Authority Use.
- Social Service Centre.

3.2.M [Manufacturing]

- Brewing or Distilling.
- Chemicals or Chemical Products Manufacturing - Class A.
- Food or Beverage Products Manufacturing - Class A.
- Linoleum or Coated Fabrics Manufacturing.
- Miscellaneous Products Manufacturing - Class A.
- Non-metallic Mineral Products Manufacturing - Class A.
- Paper Manufacturing.
- Rubber Manufacturing.
- Vegetable Oil Manufacturing.

3.2.O [Office]

- General Office, but not including the offices of accountants, lawyers and notary publics, nor the offices of real estate, advertising, insurance, travel and ticket agencies.

3.2.P [Parking]

- Parking Uses.

3.2.R [Retail]

- Farmers' Market, subject to the provisions of Section 11.21 of this By-law. *Compatibility with nearby sites, parking, traffic, noise, hours of operation, size of facility, pedestrian amenity*.
- Furniture or Appliance Store.
- Gasoline Station - Split Island, subject to the provisions of section 11.10 of this By-law.
- Public Bike Share.
- Retail Store, but limited to:
  - Retail Store for the renting of merchandise in which the exclusive use of at least 50% of the floor area is for the storage of inventory.
  - Limited Service Food Establishment, which means the use of premises for the primary purpose of selling, or selling and serving, prepared food to the public during all hours of operation, where the premises include not more than 16 indoor or outdoor seats for customers consuming food purchased on the premises, but where customers may also purchase food for take-out, and where live entertainment is not available.
  - convenience store, in conjunction with a Gasoline Station – Full Serve or Gasoline Station – Split Island.
  - Accessory Retail Use.
- Vehicle Dealer.

3.2.S [Service]

- Auction Hall.
- Funeral Home.
- Laundromat or Dry Cleaning Establishment.
- Photofinishing or Photography Studio.
- Print Shop.
- Repair Shop - Class B.
- Restaurant - Class 1.

3.2.T [Transportation and Storage]

- Aircraft Landing Place.
- Booming Ground.
- Marine Terminal or Berth.
- Mini-storage Warehouse.
- Railway Station or Rail Yard.
- Storage Yard.
- Taxicab or Limousine Station.
- Truck Terminal or Courier Depot.
- Weighing or Inspection Station.
- Works Yard.

3.2.U [Utility and Communication]

- Public Utility, other than as provided for in section 2.2.U of this Schedule.
- Recycling Depot.
- Waste Disposal Facility, but limited to the transfer, sorting or recycling of refuse or garbage.

3.2.W [Wholesale]

- Cardlock Fuel Station.
- Junk Yard or Shop existing as of November 26, 1996.
- Lumber and Building Materials Establishment.
- Wholesaling - Class B.

3.2.Z

- Any other use which is not specifically listed and defined as a use in section 2 of this By law but which the Development Permit Board considers comparable in nature to the uses listed in this Schedule, having regard to the intent of this District Schedule.
- A use which is listed in section 2 of this Schedule but does not comply with the conditions of use in section 2.3.

3.3 Conditions of Use

3.3.1 Uses listed in section 3.2 of this Schedule, except for approved Transportation and Storage Uses, must not involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares, radioactive material; coal tar products or derivatives; or, except for a split island gasoline station, compressed gas or petroleum.

3.3.2 No use listed in section 3.2 of this Schedule shall involve the bulk storage, other than wholly within a completely enclosed building or suitably contained for distribution off-site, of lime; fertilizer; toxic or corrosive chemicals or acids; flammable liquids or solids; rags or cotton waste; fungicides, herbicides or pesticides; paint, varnish, oil shellac or turpentine; grain, hops, or sugar; fish, fish oil or meal, animal oil or fat, or vegetable oil.

3.3.3 No use listed in section 3.2 of this Schedule, except for a retail store, shall involve the keeping of live animals.

3.3.4 No use listed in section 3.2 of this Schedule shall involve the storage of goods or materials other than wholly within a completely enclosed building unless the yard or portion of the yard containing the goods or materials is enclosed by a suitable fence or wall restricting public access.

3.3.5 A lounge use accessory to Brewing or Distilling use shall be carried on wholly within a completely enclosed building.

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4 Regulations

All uses approved under sections 2 and 3 of this District Schedule shall be subject to the following regulations.

4.1 Site Area -- Not Applicable.

4.2 Frontage -- Not Applicable.

4.3 Height

4.3.1 The maximum height of a building shall be 18.3 m.

4.3.2 The Director of Planning or the Development Permit Board, as the case may be, may permit an increase in the maximum height of a building to a height not exceeding 30.5 m with respect to any development provided that he first considers:

(a) the intent of this Schedule, all applicable policies and guidelines adopted by Council and the relationship of the development with nearby residential districts;
(b) the submission of any advisory group, property owner or tenant; and
(c) the effect of building height, bulk and siting on daylight access and visual privacy of developments in nearby residential districts. Daylight access can be adequately maintained if there is no shadow impact at 10 a.m., noon and 2 p.m. on September 21 and March 21. Visual privacy can be achieved by separating building facades by 24.4 m.

4.4 Front Yard and Setback

4.4.1 No front yard shall be required.

4.5 Side Yards and Setback

4.5.1 No side yard shall be required, except that where the site adjoins, without the intervention of a lane, a site located in an R district, in which case the following side yard requirements apply:

(a) where the adjoining site is in an RM district, a side yard with a minimum width of 1.5 m shall be provided adjoining the RM district;
(b) in all other cases, a side yard with a minimum width of 0.9 m shall be provided, except in the case of a corner site in which case an exterior side yard need not be provided.

4.5.2 Where a side yard is provided, although not required, the minimum provisions of section 4.5.1 shall apply.

4.6 Rear Yard and Setback

4.6.1 A rear yard with a minimum depth of 3.1 m shall be provided, except that where the rear of the site abuts a lane, this required minimum depth shall be decreased by the lane width between the rear property line and the ultimate centre line of the lane.

4.6.2 The Director of Planning or the Development Permit Board, as the case may be, may waive the requirement to provide a rear yard where he is satisfied that the site is located within an area where rear access to the site and adjacent sites is not likely to be required and that site is sufficiently large to provide adequate open space.

4.7 Floor Space Ratio

4.7.1 The floor space ratio shall not exceed 3.0, subject to the following:

(a) the maximum floor space ratio shall be 3.0 for Manufacturing Uses, Transportation and Storage Uses, Utility and Communication Uses, Wholesale Uses, and the following Service Uses: Laboratory; Laundry or Cleaning Plant; Production or Rehearsal Studio; Repair Shop - Class A; and Work Shop;
(b) the maximum floor space ratio shall be 1.0 for each of the following Service Uses: Catering Establishment; Motor Vehicle Repair Shop; Photofinishing or Photography Laboratory; and Sign Painting Shop;
(c) the maximum floor space ratio shall be 1.0 for all other uses combined;
(d) the floor area in Retail Uses, including accessory retail but not including Vehicle Dealer, shall not exceed 1 000 m^2;
(e) the floor area in General Office use shall not exceed the greater of 235 m^2 or 33 ⅓ percent of the total gross floor area of all principal and accessory uses combined;
(f) the floor area in convenience store in conjunction with a Gasoline Station – Full Serve or Gasoline Station – Split Island use must not exceed 200 m^2 per site;
(g) the floor area in Restaurant – Class 1 use must not exceed 300 m^2; and
(h) the floor area for a lounge use accessory to a Brewing or Distilling use must not exceed 80 m^2.

4.7.2 The following shall be included in the computation of floor space ratio:

(a) all floors of all buildings including accessory buildings, both above and below ground level, to be measured to the extreme outer limits of the building.

4.7.3 The following shall be excluded in the computation of floor space ratio:

(a) open residential balconies and any other appurtenances which, in the opinion of the Director of Planning, are similar to the foregoing, provided that the total area of all exclusions does not exceed eight percent of the residential floor area being provided;
(b) roof decks if the Director of Planning first considers:
  (i) the design of landscape treatments;
  (ii) the effect on privacy and overlook; and
  (iii) all applicable Council policies and guidelines.
(c) where floors are used for off-street parking and loading, the taking on or discharging of passengers, bicycle storage, heating and mechanical equipment, or uses which in the opinion of the Director of Planning are similar to the foregoing, those floors or portions thereof so used, which:
  (i) are at or below the base surface, provided that the maximum exclusion for a parking space shall not exceed 7.3 m in length; or
  (ii) are above the base surface and where developed as off-street parking are located in an accessory building situated in the rear yard, provided that the maximum exclusion for a parking space shall not exceed 7.3 m in length;
(d) storage space associated with an Artist Studio - Class B where the space is provided below the base surface and subject to a maximum exclusion of 20 m^2 for each Artist Studio - Class B; and
(e) amenity areas for the social and recreational enjoyment of residents and employees, or providing a service to the public, including facilities for general fitness, general recreation and child day care provided that:
  (i) the total area being excluded shall not exceed the lesser of 20 percent of the permitted floor space or 100 m^2; and
  (ii) in the case of a child day care centre, the Director of Planning, on the advice of the Director of Social Planning, is satisfied that there is a need for a day care facility in the building or in the immediate neighbourhood.

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4.7.4 The Development Permit Board or the Director of Planning, as the case may be, may relax the provisions of section 4.7.1(e) for General Office uses limited to manufacturer's agent or import broker or similar uses, subject to the maximum floor space provisions of section 4.7.1(c) and provided that he first considers:

(a) the intent of this Schedule and all applicable policies and guidelines adopted by Council; and

(b) the extent to which building design conforms to industrial standards for wholesale uses, including but not limited to consideration for loading bays, large truck access, freight elevators, ceiling heights, corridor and door widths, and load bearing surfaces.

4.8 Site Coverage -- Not Applicable.

4.9 [Deleted -- see Parking By-law.]

4.10 Horizontal Angle of Daylight -- Not Applicable.

4.11 Vertical Angle of Daylight -- Not Applicable.

I-3

I-3 District Schedule

1 Intent

The intent of this Schedule is to permit high technology industry, and related industry with a significant amount of research and development activity. It is also the intent to permit light industrial uses that are generally compatible with high-technology and other industrial uses, and with adjoining residential or commercial districts.

2 Outright Approval Uses

2.1 Subject to all other provisions of this By-law, including the additional regulations in section 11.3 of this By-law, and to compliance with section 2.3 and the regulations of this Schedule, the uses noted in section 2.2 shall be permitted in this District and shall be issued a permit.

2.2 Uses

2.2.A

- Accessory Buildings customarily ancillary to any of the uses listed in this Schedule, except that:
  - (a) an accessory building must not exceed 4.6 m in height, and must not exceed 3.7 m in height measured to the highest point of the roof if a flat roof, to the deck line of a mansard roof, or to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof;
  - (b) an accessory building must be situate in the rear yard no less than 3.1 m from the ultimate centre line of any rear or flanking lane; and
  - (c) an accessory building's total floor area, measured to the extreme outer limits of the building, must not exceed 10% of the total area of the site.
- Accessory Uses customarily ancillary to any of the uses listed in this section, provided that, unless permitted as an outright approval use pursuant to Section 2.2 of this schedule, the total floor area of all accessory uses is not greater than 33 ⅓ percent of the gross floor area of the principal and accessory uses combined, and provided that the floor area in accessory retail use is separated by a wall from the floor area in other uses which shall be inaccessible to the general public.

2.2.C [Cultural and Recreational]

- Artist Studio – Class A, provided that the use must not be combined with a Residential Unit, the change of use must only apply to floor area existing as of February 26, 2013, and any additions are limited to no more than 10 percent of existing floor area.
- Arts and Culture Indoor Event.

2.2.M [Manufacturing]

- Electrical Products or Appliances Manufacturing.
- Miscellaneous Products Manufacturing - Class B.
- Printing or Publishing.
- Software Manufacturing.

2.2.O [Office]

- General Office, but limited to Information Technology.

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2.2.S [Service]

- Laboratory.
- Photofinishing or Photography Laboratory.
- Production or Rehearsal Studio.
- Work Shop.

2.2.U [Utility and Communication]

- Radiocommunication Station.

2.3 Conditions of Use

2.3.1 No use listed in section 2.2 of this Schedule, except a production or rehearsal studio, shall be carried on other than wholly within a completely enclosed building, except for off-street parking and loading, heating and mechanical equipment, or other facilities or equipment which in the opinion of the Director of Planning are similar to the foregoing.

2.3.2 No use listed in section 2.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares; radioactive material; coal tar products or derivatives; or compressed gas or petroleum.

2.3.3 No use listed in section 2.2 of this Schedule shall involve the storage, other than wholly within a completely enclosed building, of lime; fertilizer; toxic or corrosive chemicals or acids; flammable liquids or solids; scrap or junk; rags or cotton waste; fungicides, herbicides or pesticides; paint, varnish, oil shellac or turpentine; grain, hops, or sugar; fish, fish oil or meal, animal oil or fat, or vegetable oil.

2.3.4 No use listed in section 2.2 of this Schedule, except for a laboratory, shall involve the keeping of live animals.

3 Conditional Approval Uses

3.1 Subject to all other provisions of this By-law, including section 3.3.3 and the additional regulations in section 11.3 of this By-law, and the provisions and regulations of this Schedule, the Development Permit Board may approve any of the uses listed in section 3.2, subject to the conditions of use in section 3.3, and including such other conditions as it may decide, provided that it first considers:

(a) the intent of this Schedule and all applicable policies and guidelines adopted by Council; and
(b) the submission of any advisory group, property owner or tenant.

3.2 Uses

3.2.A
- Accessory Uses to any of the uses listed in this Schedule, other than as provided for in section 2.2.A of this Schedule.

3.2.AG [Agricultural]

- Urban Farm - Class B, subject to the provisions of section 11.30 of this By-law.

3.2.C [Cultural and Recreational]

- Artist Studio - Class B, subject to the provisions of section 11.18 of this By-law, and provided that the change of use applies to floor area existing as of February 26, 2013 and additions are limited to a maximum of 10 percent of the existing floor area.
- Community Centre or Neighbourhood House.

I-3

- Fitness Centre.
- Hall.
- Marina.
- Park or Playground.

3.2.D • Deposition or extraction of material so as to alter the configuration of the land.

3.2.DW [Dwelling]

- Dwelling Unit for a caretaker or watchman or other person similarly employed, if such dwelling unit is considered to be essential to the operation of the business or establishment.
- Residential Unit associated with and forming an integral part of an Artist Studio - Class B, subject to the provisions of section 11.19 of this By-law.

3.2.I [Institutional]

- Ambulance Station.
- Child Day Care Facility.
- Public Authority Use.
- School - University or College.
- Social Service Centre.

3.2.M [Manufacturing]

- Bakery Products Manufacturing.
- Batteries Manufacturing.
- Brewing or Distilling.
- Chemicals or Chemical Products Manufacturing - Class B.
- Clothing Manufacturing.
- Dairy Products Manufacturing.
- Food or Beverage Products Manufacturing - Class A existing as of July 20, 1999.
- Food or Beverage Products Manufacturing - Class B.
- Furniture or Fixtures Manufacturing.
- Ice Manufacturing.
- Jewellery Manufacturing.
- Leather Products Manufacturing.
- Machinery or Equipment Manufacturing.
- Metal Products Manufacturing - Class B.
- Miscellaneous Products Manufacturing - Class A.
- Motor Vehicle Parts Manufacturing.
- Non-metallic Mineral Products Manufacturing - Class B.
- Paper Products Manufacturing.
- Plastic Products Manufacturing.
- Rubber Products Manufacturing.
- Shoes or Boots Manufacturing.
- Textiles or Knit Goods Manufacturing.
- Tobacco Products Manufacturing.
- Transportation Equipment Manufacturing.
- Wood Products Manufacturing - Class B.

3.2.O [Office]

- General Office, but not including the offices of accountants, lawyers and notary publics, nor the offices of real estate, advertising, insurance, travel and ticket agencies.

3.2.P [Parking]

- Parking Uses.

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3.2.R [Retail]

- Farmers' Market, subject to the provisions of Section 11.21 of this By-law. *Compatibility with nearby sites, parking, traffic, noise, hours of operation, size of facility, pedestrian amenity.*
- Gasoline Station - Full Serve, subject to the provisions of section 11.10 of this By-law.
- Gasoline Station - Split Island, subject to the provisions of section 11.10 of this By-law.
- Public Bike Share.
- Vehicle Dealer, but limited to the rental of motor vehicles.

3.2.S [Service]

- Animal Clinic.
- Catering Establishment.
- Laundry or Cleaning Plant.
- Motor Vehicle Repair Shop.
- Motor Vehicle Wash.
- Photofinishing or Photography Studio.
- Print Shop.
- Repair Shop - Class A.
- Repair Shop - Class B.
- Restaurant - Class 1, provided that the total floor area does not exceed 300 m^2.
- School - Arts or Self-Improvement.
- School - Business.
- School - Vocational or Trade.
- Sign Painting Shop.

3.2.T [Transportation and Storage]

- Aircraft Landing Place.
- Cold Storage Plant.
- Marine Terminal or Berth.
- Mini-storage Warehouse.
- Packaging Plant.
- Railway Station or Rail Yard.
- Storage Warehouse.
- Taxicab or Limousine Station.
- Truck Terminal or Courier Depot.

3.2.U [Utility and Communication]

- Public Utility.
- Recycling Depot.

3.2.W [Wholesale]

- Wholesaling - Class A.
- Wholesaling - Class B.

3.2.Z

- Any other use which is not specifically listed and defined as a use in section 2 of this By-law but which the Development Permit Board considers comparable in nature to the uses listed in this Schedule, having regard to the intent of this District Schedule.
- A use which is listed in section 2 of this Schedule but does not comply with the conditions of use in section 2.3.

3.3 Conditions of Use

3.3.1 No use listed in section 3.2 of this Schedule, except a gasoline station, vehicle dealer, parking uses and transportation and storage uses, shall be carried on other than wholly within a completely enclosed building unless appropriate measures are taken, to the satisfaction of the Director of Planning, to eliminate any dangerous, injurious, noxious or otherwise objectionable impact that could adversely affect the surrounding area and adjoining non-industrial districts.

3.3.2 No use listed in section 3.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares; radioactive material; coal tar products or derivatives; or, except for a gasoline station, compressed gas or petroleum.

3.3.3 No use listed in section 3.2 of this Schedule shall involve the storage, other than wholly within a completely enclosed building, of lime; fertilizer; toxic or corrosive chemicals or acids; flammable liquids or solids; rags or cotton waste; fungicides, herbicides or pesticides; paint, varnish, oil shellac or turpentine; grain, hops, or sugar; fish, fish oil or meal, animal oil or fat, or vegetable oil.

3.3.4 No use listed in section 3.2 of this Schedule, except for an animal clinic, shall involve the keeping of live animals.

3.3.5 No use listed in section 3.2 of this Schedule shall involve the storage of goods or materials other than wholly within a completely enclosed building unless the yard or portion of the yard containing the goods or materials is enclosed by a suitable fence or wall restricting public access.

3.3.6 A lounge use accessory to Brewing or Distilling use shall be carried on wholly within a completely enclosed building.

4 Regulations

All uses approved under sections 2 and 3 of this District Schedule shall be subject to the following regulations.

4.1 Site Area -- Not Applicable.

4.2 Frontage -- Not Applicable.

4.3 Height

4.3.1 The maximum height of a building shall be 18.3 m.

4.3.2 The Director of Planning or the Development Permit Board, as the case may be, may permit an increase in the maximum height of a building to a height not exceeding 30.5 m with respect to any development provided that he first considers:

(a) the intent of this Schedule, all applicable policies and guidelines adopted by Council and the relationship of the development with nearby residential districts;
(b) the submission of any advisory group, property owner or tenant; and
(c) the effect of building height, bulk and siting on daylight access and visual privacy of developments in nearby residential districts. Daylight access can be adequately maintained if there is no shadow impact at 10 a.m., noon and 2 p.m. on September 21 and March 21. Visual privacy can be achieved by separating building facades by 24.4 m.

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4.4 Front Yard

4.4.1 No front yard shall be required.

4.5 Side Yards

4.5.1 No side yard shall be required, except that where the site adjoins, without the intervention of a lane, a site located in an R district, in which case a side yard with a minimum width of 1.5 m shall be provided adjoining the R district.

4.5.2 Where a side yard is provided, although not required, a side yard with a minimum depth of 0.9 m shall be provided.

4.6 Rear Yard

4.6.1 A rear yard with a minimum depth of 3.1 m shall be provided, except that where the rear of the site abuts a lane, this required minimum depth shall be decreased by the lane width between the rear property line and the ultimate centre line of the lane.

4.6.2 The Director of Planning or the Development Permit Board, as the case may be, may waive the requirement to provide a rear yard where he is satisfied that the site is located within an area where rear access to the site and adjacent sites is not likely to be required and that site is sufficiently large to provide adequate open space.

4.7 Floor Space Ratio

4.7.1 The floor space ratio shall not exceed 3.0, subject to the following:

(a) the maximum floor space ratio shall be 3.0 for Manufacturing Uses, Transportation and Storage Uses, Utility and Communication Uses, Wholesale Uses, Service Uses listed in section 2.2.S, and Parking Uses;
(b) the maximum floor space ratio shall be 1.0 for all other uses combined;
(c) the floor area in Retail Uses, including accessory retail, shall not exceed 1 000 m^2;
(d) the floor area in Office Uses listed in section 3.2.O shall not exceed 33 percent of the total gross floor area of all principal and accessory uses combined; and
(e) the floor area for a lounge use accessory to a Brewing or Distilling use must not exceed 80 m^2.

4.7.2 The following shall be included in the computation of floor space ratio:

(a) all floors of all buildings including accessory buildings, both above and below ground level, to be measured to the extreme outer limits of the building.

4.7.3 The following shall be excluded in the computation of floor space ratio:

(a) open residential balconies and any other appurtenances which, in the opinion of the Director of Planning, are similar to the foregoing, provided that the total area of all exclusions does not exceed eight percent of the residential floor area being provided;
(b) roof decks if the Director of Planning first considers:
   (i) the design of landscape treatments;
   (ii) the effect on privacy and overlook; and
   (iii) all applicable Council policies and guidelines.
(c) where floors are used for off-street parking and loading, the taking on or discharging of passengers, bicycle storage, heating and mechanical equipment, or uses which in the opinion of the Director of Planning are similar to the foregoing, those floors or portions thereof so used, which:
   (i) are at or below the base surface, provided that the maximum exclusion for a parking space shall not exceed 7.3 m in length; or

(ii) are above the base surface and where developed as off-street parking are located in an accessory building situated in the rear yard, provided that the maximum exclusion for a parking space shall not exceed 7.3 m in length;

(d) storage space associated with an Artist Studio - Class B where the space is provided below the base surface and subject to a maximum exclusion of 20 m^2 for each Artist Studio - Class B; and

(e) amenity areas for the social and recreational enjoyment of residents and employees, or providing a service to the public, including facilities for general fitness, general recreation and child day care provided that:

(i) the total area being excluded shall not exceed the lesser of 20 percent of the permitted floor space or 100 m^2; and

(ii) in the case of a child day care centre, the Director of Planning, on the advice of the Director of Social Planning, is satisfied that there is a need for a day care facility in the building or in the immediate neighbourhood.

4.7.4 The Development Permit Board or the Director of Planning, as the case may be, may relax the provisions of section 4.7.1 up to a floor space ratio of 3.0 for Office Uses listed in section 2.2.0, if the Development Permit Board or the Director of Planning, as the case may be, first considers:

(a) the intent of the schedule, all applicable policies and guidelines adopted by Council, and the relationship of the development to any nearby residential uses;

(b) the height, bulk, location, and overall design of the building and its effect on the site, surrounding buildings, and streets; and

(c) the provision of roads and bike and pedestrian connections as outlined in plans and policies adopted by Council.

4.8 to 4.16 (Reserved)

4.17 External Design

4.17.1 Any fence, wall, or landscaping located along the street property line (which is, for the purposes of this section 4.17, the property line along an abutting street but not a lane) shall facilitate pedestrian interest to the satisfaction of the Director of Planning.

4.17.2 All garbage containers shall be enclosed, located, or screened so as not to be visible from the centre line of an abutting street.

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IC-3 District Schedule

1 Intent

The primary intent of this Schedule is to permit a mix of light industrial, live arts and theatre, residential and related uses that are generally compatible with adjoining residential and commercial districts. Service uses compatible with and complementing light industrial uses and a limited number of office uses are also permitted, but not general retail stores.

The general intent of the external design regulations is to achieve certain public objectives with respect to the historic Brewery Creek water course.

2 Outright Approval Uses

2.1 Subject to all other provisions of this By-law, including the additional regulations in section 11.3 of this By-law, and to compliance with section 2.3 and the regulations of this Schedule, the uses listed in section 2.2 shall be permitted in this District and shall be issued a permit.

2.2 Uses

2.2.A

- Accessory Buildings customarily ancillary to any of the uses listed in this Schedule, except that:
  - (a) an accessory building must not exceed 4.6 m in height, and must not exceed 3.7 m in height measured to the highest point of the roof if a flat roof, to the deck line of a mansard roof, or to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof;
  - (b) an accessory building must be situate in the rear yard no less than 3.1 m from the ultimate centre line of any rear or flanking lane; and
  - (c) an accessory building's total floor area, measured to the extreme outer limits of the building, must not exceed 10% of the total area of the site.
- Accessory Uses customarily ancillary to any of the uses listed in this section, but not including accessory retail use in conjunction with wholesale uses listed in section 2.2.W, provided that, unless permitted as an outright approval use pursuant to section 2.2 of this Schedule, the total floor area of all accessory uses shall not be greater than 33-⅓ percent of the gross floor area of the principal and accessory uses combined, and provided that the floor area in accessory retail use is separated by a wall from the floor area in other uses which shall be inaccessible to the general public.

2.2.C [Cultural and Recreational]

- Artist Studio – Class A, provided that the use must not be combined with a Residential Unit, the change of use must only apply to floor area existing as of February 26, 2013, and any additions are limited to no more than 10 percent of existing floor area.
- Arts and Culture Indoor Event.
- Club.
- Fitness Centre.
- Hall.
- Theatre.

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2.2.M [Manufacturing]

- Bakery Products Manufacturing.
- Batteries Manufacturing.
- Chemicals or Chemical Products Manufacturing - Class B.
- Clothing Manufacturing.
- Dairy Products Manufacturing.
- Electrical Products or Appliances Manufacturing.
- Food or Beverage Products Manufacturing - Class B.
- Furniture or Fixtures Manufacturing.
- Ice Manufacturing.
- Jewellery Manufacturing.
- Leather Products Manufacturing.
- Miscellaneous Products Manufacturing - Class B.
- Non-metallic Mineral Products Manufacturing - Class B.
- Paper Products Manufacturing.
- Plastic Products Manufacturing.
- Printing or Publishing.
- Rubber Products Manufacturing.
- Shoes or Boots Manufacturing.
- Software Manufacturing.
- Tobacco Products Manufacturing.
- Wood Products Manufacturing - Class B.

2.2.R [Retail]

- Retail Store, but limited to the sale of art and hand-crafted products.

2.2.S [Service]

- Catering Establishment.
- Laboratory.
- Laundry or Cleaning Plant.
- Motor Vehicle Repair Shop.
- Motor Vehicle Wash.
- Photofinishing or Photography Laboratory.
- Photofinishing or Photography Studio.
- Print Shop.
- Production or Rehearsal Studio.
- School - Vocational or Trade.
- Sign Painting Shop.
- Work Shop.

2.2.T [Transportation and Storage]

- Cold Storage Plant.
- Packaging Plant.
- Storage Warehouse.

2.2.U [Utility and Communication]

- Radiocommunication Station.

2.2.W [Wholesale]

- Lumber and Building Materials Establishment.
- Wholesaling - Class A.
- Wholesaling - Class B, provided that floor area does not exceed 1 000 m^2.

2.3 Conditions of Use

2.3.1 No use listed in section 2.2 of this Schedule, except a retail store and a lumber store, shall be carried on other than wholly within a completely enclosed building, except for off-street parking and loading, heating and mechanical equipment, or other facilities or equipment which in the opinion of the Director of Planning are similar to the foregoing.

2.3.2 No use listed in section 2.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares; radioactive material; rags or cotton waste; and compressed gas, petroleum, coal or tar products or derivatives.

3 Conditional Approval Uses

3.1 Subject to all other provisions of this By-law, including section 3.3.3, and the additional regulations in section 11.3 of this By-law, and the provisions and regulations of this Schedule, the Development Permit Board may approve any of the uses listed in section 3.2, subject to the conditions of section 3.3, and including such other conditions as it may decide, provided that it first considers:

(a) the intent of this Schedule and all applicable policies and guidelines adopted by Council; and
(b) the submission of any advisory group, property owner or tenant.

3.2 Uses

3.2.A
- Accessory Uses customarily ancillary to any of the uses listed in this section, subject to the same provisions as section 2.2.A of this Schedule.
- Accessory Uses customarily ancillary to any of the uses listed in this Schedule, other than as provided for in section 2.2.A of this Schedule.

3.2.AG [Agricultural]
- Urban Farm - Class B, subject to the provisions of section 11.30 of this By-law.

3.2.C [Cultural and Recreational]
- Artist Studio, subject to the provisions of section 11.18 of this By-law.
- Bingo Hall.
- Casino - Class 1.
- Community Centre or Neighbourhood House.

3.2.DW [Dwelling]
- Dwelling Unit for a caretaker, watchman or other person or persons similarly employed, if such dwelling unit is considered to be essential to the operation of the business or establishment.
- Dwelling Units in conjunction with any of the uses listed in this schedule except that no portion of the first storey of a building to a depth of 10.7 m from the front wall of the building and extending across its full width shall be used for residential purposes except for entrances to the residential portion.
- Dwelling Unit existing as of and used continuously since October 25, 1988, provided that any additions thereto are limited to 10 percent of existing floor space or 37 m^2, whichever is the lesser.
- Residential Unit associated with and forming an integral part of an Artist Studio, subject to the provisions of section 11.19 of this By-law.

3.2.I [Institutional]
- Ambulance Station.
- Public Authority Use.
- Social Service Centre.

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3.2.M [Manufacturing]

- Brewing or Distilling.
- Chemicals or Chemical Products Manufacturing - Class A.
- Food or Beverage Products Manufacturing - Class A.
- Linoleum or Coated Fabrics Manufacturing.
- Machinery or Equipment Manufacturing.
- Metal Products Manufacturing - Class B.
- Miscellaneous Products Manufacturing - Class A.
- Motor Vehicle Parts Manufacturing.
- Non-metallic Mineral Products Manufacturing - Class A.
- Rubber Manufacturing.
- Textiles or Knit Goods Manufacturing.
- Transportation Equipment Manufacturing.
- Vegetable Oil Manufacturing.

3.2.0 [Office]

- General office, but not including the offices of accountants, lawyers and notary publics, nor the offices of real estate, advertising, insurance, travel and ticket agencies.

3.2.P
- Parking Uses.

3.2.R [Retail]

- Farmers' Market, subject to the provisions of Section 11.21 of this By-law. *Compatibility with nearby sites, parking, traffic, noise, hours of operation, size of facility, pedestrian amenity.*
- Public Bike Share.

3.2.S [Service]

- Auction Hall.
- Cabaret.
- Restaurant - Class 1.
- Restaurant - Class 2.
- School-Arts or Self Improvement.

3.2.T [Transportation and Storage]

- Aircraft Landing Place.
- Railway Station or Rail Yard.
- Storage Yard.
- Taxicab or Limousine Station.
- Truck Terminal or Courier Depot.
- Weighing or Inspection Station.
- Works Yard.

3.2.U [Utility and Communication]

- Public Utility.
- Recycling Depot.

3.2.W [Wholesale]

- Cardlock Fuel Station.
- Wholesaling - Class B, other than as provided for in section 2.2.WH of this Schedule.

3.2.Z
- Any other use which is not specifically listed and defined as a use in section 2 of this By-law but which the Development Permit Board considers comparable in nature to the uses listed in this Schedule, having regard to the intent of this District Schedule.
- Any use which is listed in section 2.2 of this Schedule but which does not comply with the conditions of use of section 2.3.1.
- Any other use which is not specifically listed in this District Schedule but which was a legally conforming use existing as of October 25, 1988.

3.3 Conditions of Use

3.3.1 No use listed in section 3.2 of this Schedule, except a Cardlock fuel station and transportation and storage uses, shall be carried on other than wholly within a completely enclosed building unless appropriate measures are taken, to the satisfaction of the Director of Planning, to eliminate any dangerous, injurious, noxious or otherwise objectionable impact that could adversely affect the surrounding area and adjoining non-industrial districts.

3.3.2 No use listed in section 3.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares; radioactive material; rags or cotton waste; and, except for a Cardlock fuel station, compressed gas, petroleum, coal or tar products or derivatives.

3.3.3 No use listed in section 3.2 of this Schedule shall involve the storage, other than wholly within a completely enclosed building, of toxic or corrosive chemicals or acids; scrap; fungicides, herbicides or pesticides; paint, varnish, oil shellac or turpentine; grain, hops, or sugar; fish, fish oil or meal, animal oil or fat, or vegetable oil.

3.3.4 No use listed in section 3.2 of this Schedule shall involve the storage of goods or materials other than wholly within a completely enclosed building unless the yard or portion of the yard containing the goods or materials is enclosed by a suitable fence or wall restricting public access.

3.3.5 No use listed in section 3.2 of this Schedule shall involve the storage of goods or materials or the placement of machinery or of refuse or garbage receptacles other than wholly within a completely enclosed building unless adequately screened from view from any adjacent R district, or any R district across an adjacent street or lane, by evergreen planting, wall, or fence and related landscaping that is acceptable to the Director of Planning.

3.3.6 A lounge use accessory to Brewing or Distilling use shall be carried on wholly within a completely enclosed building.

4 Regulations

All uses approved under sections 2 and 3 of this Schedule shall be subject to the following regulations:

4.1 Site Area -- Not Applicable.

4.2 Frontage -- Not Applicable.

4.3 Height

4.3.1 The maximum height of a building shall be 18.3 m.

4.4 Front Yard

4.4.1 No front yard shall be required.

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4.5 Side Yards

4.5.1 No side yard shall be required, except where the site adjoins, without the intervention of a lane, a site located in an R District, in which case a side yard with a minimum width of 1.5 m shall be provided adjoining the R District.

4.5.2 Where a side yard is provided, although not required, a side yard with a minimum width of .9 m shall be provided.

4.6 Rear Yard

4.6.1 A rear yard with a minimum depth of 3.1 m shall be provided, except that where the rear of the site abuts a lane, this required minimum depth shall be decreased by the lane width between the rear property line and the ultimate centre of the lane.

4.6.2 The Director of Planning may waive the requirement to provide a rear yard where he is satisfied that the site is located within an area where rear access to the site and adjacent sites is not likely to be required.

4.7 Floor Space Ratio

4.7.1 The floor space ratio shall not exceed 3.00, subject to the following:

(a) the maximum floor space ratio shall be 1.00 for all uses other than artist studio, manufacturing uses, retail store, school, theatre, transportation and storage uses, and wholesaling - class A;
(b) the maximum floor space ratio shall be 2.5 for artist studio and the associated residential unit;
(c) the floor area in retail uses, including accessory retail, shall not exceed 1 000 m^2; and
(d) the floor area for a lounge use accessory to a Brewing or Distilling use shall not exceed 80 m^2.

4.7.2 The following shall be included in the computation of floor space ratio:

(a) all floors of all buildings, both above and below ground level, to be measured to the extreme outer limits of the building; and
(b) in dwelling units and artists studios, where the distance from a floor to the floor above, or where there is no floor above, to the top of the roof rafters or deck exceeds 3.7 m, an additional amount equal to the area of the floor below the excess height, except that the Director of Planning may exclude additional height in combination with:
  (i) an undeveloped floor area beneath roof elements which are, in the opinion of the Director of Planning, solely for decorative purposes and to which the only means of access is a hatch, residential lobby or mechanical penthouse, or
  (ii) venting skylights, opening clerestory windows or other similar features which, in the opinion of the Director of Planning, reduce energy consumption or improve natural light and ventilation.

4.7.3 The following shall be excluded in the computation of floor space ratio:

(a) open residential balconies and any other appurtenances which, in the opinion of the Director of Planning, are similar to the foregoing, provided that the total area of all exclusions does not exceed eight percent of the residential floor area being provided;
(b) roof decks if the Director of Planning first considers:
  (i) the design of landscape treatments;
  (ii) the effect on privacy and overlook; and
  (iii) all applicable Council policies and guidelines.

(c) where floors are used for off-street parking and loading, the taking on or discharging of passengers, bicycle storage, heating and mechanical equipment, or uses which in the opinion of the Director of Planning are similar to the foregoing, those floors or portions thereof so used, which are at or below the base surface, provided that the off-street parking spaces do not have a length of more than 7.3 m for the purpose of exclusion from floor space ratio computation;

(d) storage space associated with an artist studio where the space is provided below the base surface and subject to a maximum exclusion of 20 m^2 for each artist studio; and

(e) amenity areas, including child day care facilities, recreation facilities and meeting rooms accessory to a residential use, to a maximum total area of 10 percent of the total permitted floor area.

4.7.4 Where a need for a cultural facility has been demonstrated to the satisfaction of the Development Permit Board or Director of Planning, the Development Permit Board or Director of Planning may increase the maximum floor space ratio for any one building, which includes one or more of such facilities. The Development Permit Board or the Director of Planning will require that any such facility be preserved in the public domain by way of a registered agreement and operated by the City or its delegates.

In determining the increase in floor area that may be permitted, the Development Permit Board or Director of Planning shall consider:

(a) the construction cost of the facility;
(b) any costs to the developer of continuing maintenance required for the facility;
(c) the rental value of the increased floor area;
(d) the value of any authorized relaxation of other restrictions;
(e) the opinion of City Council; and
(f) all applicable policies and guidelines adopted by Council.

4.7.5 The Director of Planning or the Development Permit Board may, for any development where a residential unit is being provided in conjunction with and forming an integral part of an artist studio, permit an increase in floor space ratio, subject to prior approval by City Council, and the securing of a Housing Agreement and provided that the residential unit is occupied by persons receiving income equal to or less than the income defined by the British Columbia Housing Management Corporation as 'core need'.

In determining the amount of the increase in floor space ratio that may be permitted by this section 4.7.5, the Director of Planning or the Development Permit Board, with advice from the Manager of the Housing Centre and the Manager of Real Estate, shall consider:

(a) the cost to the developer of adhering to the conditions of the housing agreement;
(b) the value of the increased floor area;
(c) the value of any relaxation of other regulations;
(d) the impact upon livability and environmental quality of the neighbourhood; and
(e) all applicable policies and guidelines adopted by Council.

4.8 to 4.16 **(Reserved)**

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4.17 External Design

4.17.1 Building continuity shall be achieved at the street property line (which is, for the purposes of this section 4.17, the property line along an abutting street but not a lane) as follows:

(a) no yard shall be permitted along a street property line, except for a required setback, side or rear yard, and yard established by building line;
(b) the first storey shall include the main pedestrian entrance and facilities serving the public, such as reception area or lobby and showroom or display area, which shall be oriented with maximum visibility to the abutting street or, in the case of a corner site, the widest abutting street;
(c) where a building occupies a corner site, architectural features, lighting, signage, and related facade characteristics shall be located so as to orient the building to the widest abutting street;
(d) transparent window area shall comprise at least 80 percent of the exterior wall surface of the first storey along an abutting street and 40 percent of the exterior wall surface on every upper storey along an abutting street;
(e) no portion of the floor of the first storey along an abutting street shall be more than 1.0 m above or below grade at the street property line.

4.17.2 If the Director of Planning or Development Permit Board is satisfied that enforcement of section 4.17.1 will result in unnecessary hardship, and that the form of development will otherwise achieve building continuity, the Director of Planning or Development Permit Board may relax all or some of the requirements of section 4.17.1.

4.17.3 Garbage container storage areas, heating and mechanical equipment, and off-street parking and loading facilities shall be enclosed, located or screened so as not to be visible from the centre line of an abutting street.

4.17.4 Any use which is not carried on wholly within a completely enclosed building, including parking use, shall be set back 1.2 m from the street property line at an abutting street and screened, so as not to be visible from the centre line of every abutting street, by evergreen planting, wall, or fence with related landscaping.

IC-1 and IC-2 Districts Schedule

1 Intent

The primary intent of this Schedule is to permit light industrial uses that are generally compatible with one another and with adjoining residential or commercial districts. It is also the intent to permit advanced technology industry, industry with a significant amount of research and development activity, and commercial uses compatible with and complementing light industrial uses.

The general intent of external design regulations in the IC-2 District is to achieve a form of development compatible with the function and character of abutting major streets. The specific intent is to achieve building continuity that contributes a unified image to development along major streets in the IC-2 District.

2 Outright Approval Uses

2.1 Subject to all other provisions of this By-law, including the additional regulations in section 11.3 of this By-law, and to compliance with section 2.3 and the regulations of this Schedule, the uses listed in section 2.2 shall be permitted in the IC-l and IC-2 Districts and shall be issued a permit.

2.2 Uses

2.2.A

- Accessory Buildings customarily ancillary to any of the uses listed in this Schedule, except that:
  - (a) an accessory building must not exceed 4.6 m in height, and must not exceed 3.7 m in height measured to the highest point of the roof if a flat roof, to the deck line of a mansard roof, or to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof;
  - (b) an accessory building must be situate in the rear yard no less than 3.1 m from the ultimate centre line of any rear or flanking lane; and
  - (c) an accessory building's total floor area, measured to the extreme outer limits of the building, must not exceed 10% of the total area of the site.

- Accessory Uses customarily ancillary to any of the uses listed in this section, but not including accessory retail use in conjunction with wholesale uses listed in section 2.2.W, provided that, unless permitted as an outright approval use pursuant to section 2.2 of this Schedule, the total floor area of all accessory uses shall not be greater than 33-⅓ percent of the gross floor area of the principal and accessory uses combined, and provided that the floor area in accessory retail use is separated by a wall from the floor area in other uses which shall be inaccessible to the general public.

2.2.C [Cultural and Recreational]

- Artist Studio – Class A, provided that the use must not be combined with a Residential Unit, the change of use must only apply to floor area existing as of February 26, 2013, and any additions are limited to no more than 10 percent of existing floor area.

- Arts and Culture Indoor Event.

2.2.M [Manufacturing]

- Bakery Products Manufacturing.
- Batteries Manufacturing.

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- Chemicals or Chemical Products Manufacturing - Class B.
- Clothing Manufacturing.
- Dairy Products Manufacturing.
- Electrical Products or Appliances Manufacturing.
- Food or Beverage Products Manufacturing - Class B.
- Furniture or Fixtures Manufacturing.
- Ice Manufacturing.
- Jewellery Manufacturing.
- Leather Products Manufacturing.
- Miscellaneous Products Manufacturing - Class B.
- Non-metallic Mineral Products Manufacturing - Class B.
- Paper Products Manufacturing.
- Plastic Products Manufacturing.
- Printing or Publishing.
- Rubber Products Manufacturing.
- Shoes or Boots Manufacturing.
- Software Manufacturing.
- Tobacco Products Manufacturing.
- Wood Products Manufacturing - Class B.

2.2.O [Office]

- General Office.

2.2.R [Retail]

- Furniture or Appliance Store.
- Gasoline Station - Full Serve, subject to the provisions of section 11.10 of this By-law.
- Retail Store.
- Vehicle Dealer.

2.2.S [Service]

- Animal Clinic.
- Catering Establishment.
- Laboratory.
- Laundry or Cleaning Plant.
- Motor Vehicle Repair Shop.
- Motor Vehicle Wash.
- Photofinishing or Photography Laboratory.
- Photofinishing or Photography Studio.
- Print Shop.
- Production or Rehearsal Studio.
- Repair Shop - Class A.
- Repair Shop - Class B.
- Restaurant - Class 1, provided that total floor area does not exceed 65 m^2.
- School - Arts or Self-Improvement.
- School - Business.
- School - Vocational or Trade.
- Sign Painting Shop.
- Work Shop.

2.2.T [Transportation and Storage]

- Cold Storage Plant.
- Packaging Plant.
- Storage Warehouse.

2.2.U [Utility and Communication]

- Radiocommunication Station.

2.2.W [Wholesale]

- Lumber and Building Materials Establishment.
- Wholesaling - Class A.
- Wholesaling - Class B.

2.3 Conditions of Use

2.3.1 No use listed in section 2.2 of this Schedule, except a full-serve gasoline station and a lumber store, shall be carried on other than wholly within a completely enclosed building, except for off-street parking and loading, heating and mechanical equipment, or other facilities or equipment which in the opinion of the Director of Planning are similar to the foregoing.

2.3.2 No use listed in section 2.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares; radioactive material; rags or cotton waste; and, except for a full-serve gasoline station, compressed gas, petroleum, coal or tar products or derivatives.

3 Conditional Approval Uses

3.1 Subject to all other provisions of this By-law, including section 3.3.3, and the additional regulations in section 11.3 of this By-law, and the provisions and regulations of this Schedule, the Development Permit Board may approve, for the IC-1 and IC-2 Districts, any of the uses listed in section 3.2, subject to the conditions of section 3.3, and including such other conditions as it may decide, provided that it first considers:

(a) the intent of this Schedule and all applicable policies and guidelines adopted by Council; and
(b) the submission of any advisory group, property owner or tenant.

3.2 Uses

3.2.A

- Accessory Uses customarily ancillary to any of the uses listed in this section, subject to the same provisions as section 2.2.A of this Schedule.
- Accessory Uses customarily ancillary to any of the uses listed in this Schedule, other than as provided for in section 2.2.A of this Schedule.

3.2.AG [Agricultural]

- Urban Farm - Class B, subject to the provisions of section 11.30 of this By-law.

3.2.C [Cultural and Recreational]

- Artist Studio, subject to the provisions of section 11.18 of this By-law, and provided that the change of use applies to floor area existing as of February 26, 2013 and additions are limited to a maximum of 10 percent of the existing floor area.
- Club.
- Fitness Centre.
- Parks and Playground.

3.2.DW [Dwelling]

- Dwelling Unit for a caretaker or watchman or other person similarly employed, if such dwelling unit is considered to be essential to the operation of the business or establishment.
- Residential Unit associated with and forming an integral part of an artist studio, subject to the provisions of section 11.19 of this By-law.

IC-1 and IC-2

3.2.I [Institutional]

- Ambulance Station.
- Public Authority Use.
- Social Service Centre.

3.2.M [Manufacturing]

- Brewing or Distilling.
- Chemicals or Chemical Products Manufacturing - Class A.
- Food or Beverage Products Manufacturing - Class A.
- Linoleum or Coated Fabrics Manufacturing.
- Machinery or Equipment Manufacturing.
- Metal Products Manufacturing - Class B.
- Miscellaneous Products Manufacturing - Class A.
- Motor Vehicle Parts Manufacturing.
- Non-metallic Mineral Products Manufacturing - Class A.
- Rubber Manufacturing.
- Textiles or Knit Goods Manufacturing.
- Transportation Equipment Manufacturing.
- Vegetable Oil Manufacturing.

3.2.P [Parking]

- Parking Uses.

3.2.R [Retail]

- Farmers' Market, subject to the provisions of Section 11.21 of this By-law. *Compatibility with nearby sites, parking, traffic, noise, hours of operation, size of facility, pedestrian amenity.*
- Gasoline Station - Split Island, subject to the provisions of section 11.10 of this By-law.
- Public Bike Share.

3.2.S [Service]

- Auction Hall.

3.2.T [Transportation and Storage]

- Booming Ground.
- Marine Terminal or Berth.
- Mini-storage Warehouse.
- Storage Yard.
- Taxicab or Limousine Station.
- Truck Terminal or Courier Depot.
- Weighing or Inspection Station.
- Works Yard.

3.2.U [Utility]

- Public Utility.
- Recycling Depot.

3.2.W [Wholesale]

- Cardlock Fuel Station.

3.2.Z
- Any other use which is not specifically listed and defined as a use in section 2 of this By-law but which the Development Permit Board considers comparable in nature to the uses listed in this Schedule, having regard to the intent of this District Schedule.
- A use which is listed in section 2.2 of this Schedule but does not comply with the condition of use in section 2.3.1.

3.3 Conditions of Use

3.3.1 No use listed in section 3.2 of this Schedule, except a split-island gasoline station and a Cardlock fuel station, shall be carried on other than wholly within a completely enclosed building unless appropriate measures are taken, to the satisfaction of the Director of Planning, to eliminate any dangerous, injurious, noxious or otherwise objectionable impact that could adversely affect the surrounding area and adjoining non-industrial districts.

3.3.2 No use listed in section 3.2 of this Schedule shall involve the bulk storage, pending ultimate distribution off site, of explosives, fireworks, ammunition, matches, or flares; radioactive material; rags or cotton waste; and, except for a split-island gasoline station and a Cardlock fuel station, compressed gas, petroleum, coal or tar products or derivatives.

3.3.3 No use listed in section 3.2 of this Schedule shall involve the storage, other than wholly within a completely enclosed building, of toxic or corrosive chemicals or acids; scrap; fungicides, herbicides or pesticides; paint, varnish, oil shellac or turpentine; grain, hops, or sugar; fish, fish oil or meal, animal oil or fat, or vegetable oil.

3.3.4 No use listed in section 3.2 of this Schedule shall involve the storage of goods or materials other than wholly within a completely enclosed building unless the yard or portion of the yard containing the goods or materials is enclosed by a suitable fence or wall restricting public access.

3.3.5 No use listed in section 3.2 of this Schedule shall involve the storage of goods or materials or the placement of machinery or of refuse or garbage receptacles other than wholly within a completely enclosed building unless adequately screened from view from any adjacent R district, or any R district across an adjacent street or lane, by evergreen planting, wall, or fence and related landscaping that is acceptable to the Director of Planning.

3.3.6 A lounge use accessory to Brewing or Distilling use shall be carried on wholly within a completely enclosed building.

4 Regulations

All uses approved under sections 2 and 3 of this Schedule shall be subject to the following regulations, except section 4.17 which shall apply only in the IC-2 District.

4.1 Site Area -- Not Applicable.

4.2 Frontage -- Not Applicable.

4.3 Height

4.3.1 The maximum height of a building shall be 18.3 m.

4.3.2 For any building or part of a building situated in the IC-2 District, the maximum building height at the street property line shall be 12.2 m and a building envelope shall apply, as follows:

IC-1 and IC-2

(a) no portion of the building shall protrude above an envelope formed by a vertical line at the street property line and a plane formed by an angle of 45 degrees measured from the vertical and having its vertex at the maximum building height permitted at the street property line;
(b) in the case of a corner site, the provisions of section 4.3.2(a) shall apply at both street property lines.

4.4 Front Yard

4.4.1 No front yard shall be required.

4.5 Side Yards

4.5.1 No side yard shall be required, except where the site adjoins, without the intervention of a lane, a site located in an R District, in which case a side yard with a minimum width of 1.5 m shall be provided adjoining the R District.

4.5.2 Where a side yard is provided, although not required, a side yard with a minimum width of .9 m shall be provided.

4.6 Rear Yard

4.6.1 A rear yard with a minimum depth of 3.1 m shall be provided, except that where the rear of the site abuts a lane, this required minimum depth shall be decreased by the lane width between the rear property line and the ultimate centre of the lane.

4.6.2 The Director of Planning or the Development Permit Board, as the case may be, may waive the requirement to provide a rear yard where he is satisfied that the site is located within an area where rear access to the site and adjacent sites is not likely to be required.

4.7 Floor Space Ratio

4.7.1 The floor space ratio shall not exceed 3.0, subject to the following:

(a) the maximum floor space ratio shall be 1.0 for all uses other than manufacturing uses, transportation and storage uses, and Wholesaling - Class A;
(b) the maximum floor space ratio may be increased to 1.5 for any office use ancillary to manufacturing, provided that the principal use or uses only includes manufacturing and provided that the total floor area of all accessory uses shall not be greater than 50 percent of the gross floor area of all principal and accessory uses combined;
(c) the floor area in retail uses, including accessory retail, shall not exceed 1 000 m^2; and
(d) the floor area for a lounge use accessory to a Brewing or Distilling use shall not exceed 80 m^2.

4.7.2 The following shall be included in the computation of floor space ratio:

(a) all floors of all buildings, both above and below ground level, to be measured to the extreme outer limits of the building.

4.7.3 The following shall be excluded in the computation of floor space ratio:

(a) open residential balconies and any other appurtenances which, in the opinion of the Director of Planning, are similar to the foregoing, provided that the total area of all exclusions does not exceed eight percent of the residential floor area being provided;
(b) roof decks if the Director of Planning first considers:
  (i) the design of landscape treatments;
  (ii) the effect on privacy and overlook; and
  (iii) all applicable Council policies and guidelines.

(c) where floors are used for off-street parking and loading, the taking on or discharging of passengers, bicycle storage, heating and mechanical equipment, or uses which in the opinion of the Director of Planning are similar to the foregoing, those floors or portions thereof so used, which are at or below the base surface, provided that the off-street parking spaces do not have a length of more than 7.3 m for the purpose of exclusion from floor space ratio computation;

(d) storage space associated with an artist studio where the space is provided below the base surface and subject to a maximum exclusion of 20 m^2 for each artist studio; and

(e) amenity areas, including child day care facilities, recreation facilities and meeting rooms accessory to a residential use, to a maximum total area of 10 percent of the total permitted floor area.

4.8 to 4.16 **(Reserved)**

4.17 **External Design**

4.17.1 In the IC-2 District, building continuity shall be achieved at the street property line (which is, for the purposes of this section 4.17, the property line along an abutting street but not a lane) as follows:

(a) no yard shall be permitted along a street property line, except for a required setback, side or rear yard, and yard established by building line;

(b) the first storey shall include the main pedestrian entrance and facilities serving the public, such as reception area or lobby and showroom or display area, which shall be oriented with maximum visibility to the abutting street or, in the case of a corner site, the widest abutting street;

(c) where a building occupies a corner site, architectural features, lighting, signage, and related facade characteristics shall be located so as to orient the building to the widest abutting street;

(d) transparent window area shall comprise at least 80 percent of the exterior wall surface of the first storey along an abutting street and 40 percent of the exterior wall surface on every upper storey along an abutting street;

(e) no portion of the floor of the first storey along an abutting street shall be more than 1.0 m above or below grade at the street property line.

4.17.2 In the IC-2 District, garbage container storage areas, heating and mechanical equipment, and off-street parking and loading facilities shall be enclosed, located or screened so as not to be visible from the centre line of an abutting street.

4.17.3 In the IC-2 District, any use which is not carried on wholly within a completely enclosed building, including parking use, except a full-serve or split-island gasoline station, shall be set back 1.2 m from the street property line at an abutting street and screened, so as not to be visible from the centre line of every abutting street, by evergreen planting, wall, or fence with related landscaping.

IC-1 and IC-2

7.0 Appendix 2: Major Assumptions for Financial Analysis

The financial analysis incorporates the following main assumptions:

1. Revenue and Value:
   a) Strata residential prices for midrise concrete units are based on market averages of $1050 per square foot.
   b) Strata residential prices for low-rise wood-frame units are based on market average of $950 per square foot.
   c) Market Rental assuming 35% of units 2 bedroom or larger, average unit size of 600 sq. ft. and Rental 100 maximum rents:

Studio	1 BR	2BR	3BR
$1,260	$1,675	$2,084	$2,606

   d) Affordable rental assuming 35% of units are 2 bedroom or larger, average unit size of 600sq. ft. and High Income limits (HILs) of:

Studio	1 BR	2BR	3BR
$962.50	$1062.50	$1300.00	$1712.50

   e) A rental apartment cap rate of 3.75% is based on recent sales of new apartment buildings in the City of Vancouver.
   f) A rental vacancy allowance of 2% is included.
   g) Retail lease rates are assumed to be $35.00 per sq. ft. triple net based on market averages.
   h) The retail cap rates is set to 5.0% based on the CBRE and Colliers Q3 2016 cap rate reports.
   i) A retail vacancy allowance of 5.0% is included.
   j) Office lease rates are assumed to be $30.00 per sq. ft. triple net based on market average.
   k) The office cap rate is set to 4.25% based on the CBRE and Colliers Q3 2106 cap rate reports.
   l) An office vacancy allowance of 5.0% is included.
   m) Industrial lease rates are assumed to be $16.00 per sq. ft. triple net based on market averages.
   n) The industrial cap rate is set at 4.75% based on the CBRE and Colliers Q3 2106 cap rate reports.

2. Cost Assumptions:
   a) Hard construction costs of $250 per sq. ft. for above grade concrete residential floorspace based on the 2016 BTY and Altus Cost Guide.
   b) Hard construction costs of $175 per sq. ft. for above grade wood frame residential floorspace based on 2016 BTY and Altus Cost Guide.
   c) Hard construction costs of $240 per sq. ft. for ground floor commercial space based on the 2016 BTY and Altus Cost Guide.
   d) Hard construction costs of $22,500 per sq. ft. for above grade parking assuming an average parking space of 400 sq. ft. including circulating space.
   e) Hard construction costs of $45,000 per sq. ft. for underground parking assuming an average parking space of 400 sq. ft. including circulating space.
   f) Soft costs of 9.0% on hard costs are included for building permits and professional fees (e.g. architectural work, engineering).
   g) Where applicable, the rezoning application fee charged by the City and an allowance of $200,000 in rezoning costs is also included.
   h) Project management costs of 3.0% of hard costs.
   i) Contingency of 3.5% on hard and soft costs.
   j) DCLs are included at 2016 rates. The False Creek Flats Layered DCL is also included.
   k) Profit of 15% on costs or 13% on revenue is included.

8.0 Appendix 3: Financial Analysis

8.1 I-2 Sites

Attachment 1: Highest and best use of I-2 lands located in the False Creek Flats Rezoning Policy Area under existing zoning.

Residual Land Value Analysis
3.0 FSR Office Assuming I-2 Rezoned to allow for office use permitted in the I-3 district
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560			
Frontage	300	ft		
FSR	3.00			
Project Size	130,680	sq.ft.		
Retail Space	0	sq.ft.		
Office Space	130,680	sq.ft.		
Retail Rentable Area	100.0%	or	0	sq.ft.
Office Rentable Area	95.0%	or	124,146	sq.ft.
Total Parking Stalls	243	stalls or 1 per	50.0	sq. metres of commercial space
Revenue and Value Assumptions:				
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance		
Average Retail Net Lease Rate	$35.00	per sq.ft.		
Operating Costs	$18.00	per sq.ft. of rentable area		
Annual Vacancy Allowance	5.0%			
Property Management	0.0%	of lease revenue (included in operating costs)		
Structural Allowance	0.0%	of lease revenue		
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month		
Capitalization Rate	4.25%			
Profit Allowance	15.00%	of costs or	13.0%	of value
Cost Assumptions:				
Rezoning Application Fee	$12,722			
Rezoning Costs	$200,000			
Demolition Allowance	$50,000			
Public Art Contribution	$0.00	per gross sq.ft.		
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building - shell)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground parking)		
Base Building Hard Construction Costs	$324	per sq.ft. buildable (including parking)		
Sustainability Features	0%			
Allowance to finish common areas	$50	per sq.ft. of common area		
Fit-up Allowance	$25	per rentable square foot		
Permits and Professional fees (soft costs)	9%	of hard costs		
Management	3%	of hard costs, fit up, and professional fees		
Development Fee	0%	of hard costs, fit up, management and professional fees		
Contingency	3.5%	of hard and soft costs		
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses		
Vancouver City-wide DCL	$13.91	per sq.ft. of building area		
Area-specific DCL	$5.89	per sq.ft. of building area		
Interim Financing	5.0%	on 50% of all costs assuming a	1.75	year construction period
Applied to	75.0%	of construction costs		
Applied to	50.0%	of land costs		
Property Taxes During Development	1.386%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$44,684,936	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Marketing	$250,000			
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of office space during lease-up
Sales Commission upon completion	2%			

Attachment 1 continued:

2.0 Analysis

Value:	
Lease Revenue	$3,538,161
Recovered Operating Costs	$2,122,897
Parking Income	$371,790
Total Gross Revenue	$6,032,848
Less Operating Costs	$2,234,628
Less Management	$0
Less Structural	$0
Net Operating Income	$3,798,220
Capitalized Value	$89,369,873
Less Commission	$1,787,397
Net Proceeds	$87,582,475
Total Value per sq.ft. buildable	**$670**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$42,340,320
Sustainability Features	$0
Allowance to finish common areas	$326,700
Fit-Up	$3,103,650
Upfront Leasing Commissions	$601,487
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$744,876
Permits and Professional fees (soft costs)	$3,822,976
Management	$1,487,809
Development Fee	$0
Contingency	$1,667,789
GVRD Sewer Levy	$57,891
Vancouver City-wide DCL	$1,817,759
Vancouver Area-specific DCL	$769,590
Property Taxes during Development	$513,123
Less property taxes during approvals	$24,260
Interim Financing	$1,900,767
Total Costs Before Land and Profit	$59,828,916
Profit:	$11,653,831
Land Residual:	
Land Residual Before Holding Costs	$16,099,728
Less interim financing on land for construction/approvals	$815,049
Less property transfer tax	$435,813
Residual Land Value	$14,824,606
Value per sq.ft. buildable	**$113**

Attachment 2: Impact of allowing above grade parking that is included in FSR.

Residual Land Value Analysis
Assume Parking is Included in FSR and 2.0 FSR of Office and 1.0 FSR of Above Grade Parking is Constructed
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:					
Assumed Site Size	43,560				
Frontage	300	ft			
FSR	2.00				
Project Size	87,120	sq.ft.			
Retail Space	0	sq.ft.			
Office Space	87,120	sq.ft.			
Retail Rentable Area	100.0%	or	0	sq.ft.	
Office Rentable Area	95.0%	or	82,764	sq.ft.	
Total Parking Stalls	162	stalls or 1 per	50.0	sq. metres of commercial space	
Above Grade Parking Stalls	109	stalls			
Revenue and Value Assumptions:					
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance			
Average Retail Net Lease Rate	$35.00	per sq.ft.			
Operating Costs	$18.00	per sq.ft. of rentable area			
Annual Vacancy Allowance	5.0%				
Property Management	0.0%	of lease revenue (included in operating costs)			
Structural Allowance	0.0%	of lease revenue			
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month			
Capitalization Rate	4.25%				
Profit Allowance	15.00%	of costs or	13.0%	of value	
Cost Assumptions:					
Rezoning Application Fee	$12,722				
Rezoning Costs	$200,000				
Demolition Allowance	$50,000				
Public Art Contribution	$0.00	per gross sq.ft.			
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage	
Allowance for piling, stabilization	$0	per gross sq.ft.			
Building Construction Costs (to base building - shell)	$240	per sq.ft.			
Parking Construction Costs	$45,000	per stall (assuming underground parking)			
	$25,000	per stall (assuming above grade parking)			
Base Building Hard Construction Costs	$299	per sq.ft. buildable (including parking)			
Sustainability Features	0%				
Allowance to finish common areas	$50	per sq.ft. of common area			
Fit-up Allowance	$25	per rentable square foot			
Permits and Professional fees (soft costs)	9%	of hard costs			
Management	3%	of hard costs, fit up, and professional fees			
Development Fee	0%	of hard costs, fit up, management and professional fees			
Contingency	3.5%	of hard and soft costs			
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses			
Vancouver City-wide DCL	$13.91	per sq.ft. of building area			
Area-specific DCL	$5.89	per sq.ft. of building area			
Interim Financing	5.0%	on 50% of all costs assuming a	1.75	year construction period	
Applied to	75.0%	of construction costs			
Applied to	50.0%	of land costs			
Property Taxes During Development	1.386%	applied to land value in Year 1	$3,500,000		
		applied to 50% of gross value of building in Year 2, which is:			$29,789,958
Upfront Leasing Commissions	17%	of Year 1 revenue			
Marketing	$250,000				
Lease-up period after construction complete	6	months, or	0.5	years	
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of office space during lease-up	
Sales Commission upon completion	2%				

Attachment 2 continued:

2.0 Analysis

Value:	
Lease Revenue	$2,358,774
Recovered Operating Costs	$1,415,264
Parking Income	$247,860
Total Gross Revenue	$4,021,898
Less Operating Costs	$1,489,752
Less Management	$0
Less Structural	$0
Net Operating Income	$2,532,146
Capitalized Value	$59,579,915
Less Commission	$1,191,598
Net Proceeds	$58,388,317
Total Value per sq.ft. buildable	**$670**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$26,048,880
Sustainability Features	$0
Allowance to finish common areas	$217,800
Fit-Up	$2,069,100
Upfront Leasing Commissions	$400,992
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$496,584
Permits and Professional fees (soft costs)	$2,356,747
Management	$920,776
Development Fee	$0
Contingency	$1,026,424
GVRD Sewer Levy	$38,594
Vancouver City-wide DCL	$1,211,839
Vancouver Area-specific DCL	$513,060
Property Taxes during Development	$358,256
Less property taxes during approvals	$24,260
Interim Financing	$1,192,184
Total Costs Before Land and Profit	$37,525,413
Profit:	$7,769,221
Land Residual:	
Land Residual Before Holding Costs	$13,093,683
Less interim financing on land for construction/approvals	$662,868
Less property transfer tax	$350,197
Residual Land Value	$12,056,358
Value per sq.ft. buildable	**$138**

Attachment 3: Breakeven density of requiring urban agriculture on new buildings (low cost scenario).

Residual Land Value Analysis
Breakeven Office Density Needed if Green Roof Required (Low Green Roof Construction Cost Scenario)
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:						
Assumed Site Size	43,560					
Frontage	300	ft				
FSR	3.15					
Project Size	137,214	sq.ft.				
Retail Space	0	sq.ft.				
Office Space	137,214	sq.ft.				
Retail Rentable Area	100.0%	or	0	sq.ft.		
Office Rentable Area	95.0%	or	130,353	sq.ft.		
Total Parking Stalls	255	stalls or 1 per	50.0	sq. metres of commercial space		
Revenue and Value Assumptions:						
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance				
Average Retail Net Lease Rate	$35.00	per sq.ft.				
Operating Costs	$18.00	per sq.ft. of rentable area				
Annual Vacancy Allowance	5.0%					
Property Management	0.0%	of lease revenue (included in operating costs)				
Structural Allowance	0.0%	of lease revenue				
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month				
Capitalization Rate	4.25%					
Profit Allowance	15.00%	of costs or	13.0%	of value		
Cost Assumptions:						
Rezoning Application Fee	$12,722					
Rezoning Costs	$200,000					
Demolition Allowance	$50,000					
Public Art Contribution	$0.00	per gross sq.ft.				
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage		
Allowance for piling, stabilization	$0	per gross sq.ft.				
Building Construction Costs (to base building - shell)	$240	per sq.ft.				
Parking Construction Costs	$45,000	per stall (assuming underground parking)				
Base Building Hard Construction Costs	$324	per sq.ft. buildable (including parking)				
Sustainability Features (Green Roof)	$30	per sq. ft. assuming roof covers 50% of site area				
Allowance to finish common areas	$50	per sq.ft. of common area				
Fit-up Allowance	$25	per rentable square foot				
Permits and Professional fees (soft costs)	9%	of hard costs				
Management	3%	of hard costs, fit up, and professional fees				
Development Fee	0%	of hard costs, fit up, management and professional fees				
Contingency	3.5%	of hard and soft costs				
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses				
Vancouver City-wide DCL	$13.91	per sq.ft. of building area				
Area-specific DCL	$5.89	per sq.ft. of building area				
Interim Financing	5.0%	on 50% of all costs assuming a		1.75	year construction period	
Applied to	75.0%	of construction costs				
Applied to	50.0%	of land costs				
Property Taxes During Development	1.386%	applied to land value in Year 1		$3,500,000		
		applied to 50% of gross value of building in Year 2, which is:				$46,916,483
Upfront Leasing Commissions	17%	of Year 1 revenue				
Marketing	$250,000					
Lease-up period after construction complete	6	months, or		0.5 years		
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on			50%	of office space during lease-up
Sales Commission upon completion	2%					

Attachment 3 continued:

2.0 Analysis

Value:	
Lease Revenue	$3,715,069
Recovered Operating Costs	$2,229,041
Parking Income	$390,150
Total Gross Revenue	$6,334,260
Less Operating Costs	$2,346,359
Less Management	$0
Less Structural	$0
Net Operating Income	$3,987,901
Capitalized Value	$93,832,967
Less Commission	$1,876,659
Net Proceeds	$91,956,307
Total Value per sq.ft. buildable	**$670**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$44,457,336
Green Roof	$653,400
Allowance to finish common areas	$343,035
Fit-Up	$3,258,833
Upfront Leasing Commissions	$631,562
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$782,120
Permits and Professional fees (soft costs)	$4,072,314
Management	$1,583,548
Development Fee	$0
Contingency	$1,753,962
GVRD Sewer Levy	$60,786
Vancouver City-wide DCL	$1,908,647
Vancouver Area-specific DCL	$808,070
Property Taxes during Development	$536,325
Less property taxes during approvals	$24,260
Interim Financing	$2,018,760
Total Costs Before Land and Profit	$63,542,873
Profit:	$12,235,819
Land Residual:	
Land Residual Before Holding Costs	$16,177,615
Less interim financing on land for construction/approvals	$818,992
Less property transfer tax	$438,031
Residual Land Value	$14,896,332
Value per sq.ft. buildable	**$109**

Attachment 4: Breakeven density of requiring urban agriculture on new buildings (high cost scenario).

Residual Land Value Analysis
Breakeven Office Density Needed if Green Roof Required (High Green Roof Construction Cost Scenario)
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:						
Assumed Site Size	43,560					
Frontage	300	ft				
FSR	3.65					
Project Size	158,994	sq.ft.				
Retail Space	0	sq.ft.				
Office Space	158,994	sq.ft.				
Retail Rentable Area	100.0%	or	0	sq.ft.		
Office Rentable Area	95.0%	or	151,044	sq.ft.		
Total Parking Stalls	295	stalls or 1 per	50.0	sq. metres of commercial space		
Revenue and Value Assumptions:						
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance				
Average Retail Net Lease Rate	$35.00	per sq.ft.				
Operating Costs	$18.00	per sq.ft. of rentable area				
Annual Vacancy Allowance	5.0%					
Property Management	0.0%	of lease revenue (included in operating costs)				
Structural Allowance	0.0%	of lease revenue				
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month				
Capitalization Rate	4.25%					
Profit Allowance	15.00%	of costs or	13.0%	of value		
Cost Assumptions:						
Rezoning Application Fee	$12,722					
Rezoning Costs	$200,000					
Demolition Allowance	$50,000					
Public Art Contribution	$0.00	per gross sq.ft.				
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage		
Allowance for piling, stabilization	$0	per gross sq.ft.				
Building Construction Costs (to base building - shell)	$240	per sq.ft.				
Parking Construction Costs	$45,000	per stall (assuming underground parking)				
Base Building Hard Construction Costs	$323	per sq.ft. buildable (including parking)				
Sustainability Features (Green Roof)	$150	per sq. ft. assuming roof covers 50% of site area				
Allowance to finish common areas	$50	per sq.ft. of common area				
Fit-up Allowance	$25	per rentable square foot				
Permits and Professional fees (soft costs)	9%	of hard costs				
Management	3%	of hard costs, fit up, and professional fees				
Development Fee	0%	of hard costs, fit up, management and professional fees				
Contingency	3.5%	of hard and soft costs				
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses				
Vancouver City-wide DCL	$13.91	per sq.ft. of building area				
Area-specific DCL	$5.89	per sq.ft. of building area				
Interim Financing	5.0%	on 50% of all costs assuming a		1.75	year construction period	
Applied to	75.0%	of construction costs				
Applied to	50.0%	of land costs				
Property Taxes During Development	1.386%	applied to land value in Year 1		$3,500,000		
		applied to 50% of gross value of building in Year 2, which is:				$54,354,973
Upfront Leasing Commissions	17%	of Year 1 revenue				
Marketing	$250,000					
Lease-up period after construction complete	6	months, or		0.5	years	
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on			50%	of office space during lease-up
Sales Commission upon completion	2%					

Attachment 4 continued:

2.0 Analysis

Value:	
Lease Revenue	$4,304,763
Recovered Operating Costs	$2,582,858
Parking Income	$451,350
Total Gross Revenue	$7,338,970
Less Operating Costs	$2,718,797
Less Management	$0
Less Structural	$0
Net Operating Income	$4,620,173
Capitalized Value	$108,709,945
Less Commission	$2,174,199
Net Proceeds	$106,535,747
Total Value per sq.ft. buildable	**$670**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$51,355,062
Green Roof	$3,267,000
Allowance to finish common areas	$397,485
Fit-Up	$3,776,108
Upfront Leasing Commissions	$731,810
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$906,266
Permits and Professional fees (soft costs)	$4,928,333
Management	$1,911,720
Development Fee	$0
Contingency	$2,036,829
GVRD Sewer Levy	$70,434
Vancouver City-wide DCL	$2,211,607
Vancouver Area-specific DCL	$936,335
Property Taxes during Development	$613,665
Less property taxes during approvals	$24,260
Interim Financing	$2,422,115
Total Costs Before Land and Profit	$76,238,945
Profit:	$14,175,777
Land Residual:	
Land Residual Before Holding Costs	$16,121,024
Less interim financing on land for construction/approvals	$816,127
Less property transfer tax	$436,419
Residual Land Value	$14,844,218
Value per sq.ft. buildable	**$93**

Attachment 5: Breakeven density required if specific uses are required (Art, Light Industrial, Incubator etc.).

Residual Land Value Analysis
Breakeven Density required if Art, light Industrial, Incubator, and Food Production Space are Required for Ground Floor Space
Assumes Ground Floor Space is 50% of Site Area
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560			
Frontage	300	ft		
FSR	4.20			
Project Size	182,952	sq.ft.		
Art, Light Industrial, Food Production etc. Space	21,780	sq.ft.		
Office Space	161,172	sq.ft.		
Art, Light Industrial, etc. Space Rentable Area	100.0%	or	21,780	sq.ft.
Office Rentable Area	95.0%	or	153,113	sq.ft.
Parking (Industrial)	22	stalls or 1 per	93	square metres of gross area
Parking(Office)	299	stalls or 1 per	50.0	sq. metres of commercial space
Total Parking Stalls	321			
Assumed Surface Stalls	22			
Revenue and Value Assumptions:				
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance		
Art, Light Industrial, Food Production etc. Space	$18.00	per sq.ft.		
Operating Costs for Office Space	$18.00	per sq.ft. of rentable area		
Operating Costs for Art, Light Industrial, etc. Space	$8.00	per sq.ft. of rentable area		
Annual Vacancy Allowance	5.0%			
Property Management	0.0%	of lease revenue (included in operating costs)		
Structural Allowance	0.0%	of lease revenue		
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month		
Capitalization Rate	4.25%			
Profit Allowance	15.00%	of costs or	13.0%	of value
Cost Assumptions:				
Rezoning Application Fee	$12,722			
Rezoning Costs	$200,000			
Demolition Allowance	$50,000			
Public Art Contribution	$0.00	per gross sq.ft.		
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building - shell)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground parking)		
	$7,500	per stall (assuming surface parking)		
Base Building Hard Construction Costs	$314	per sq.ft. buildable (including parking)		
Sustainability Features	0%			
Allowance to finish common areas	$50	per sq.ft. of common area		
Fit-up Allowance	$25	per rentable square foot		
Fit-up Allowance for Art, Light Industrial, etc. Space	$25	per rentable square foot		
Permits and Professional fees (soft costs)	9%	of hard costs		
Management	3%	of hard costs, fit up, and professional fees		
Development Fee	0%	of hard costs, fit up, management and professional fees		
Contingency	3.5%	of hard and soft costs		
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses		
Vancouver City-wide DCL	$13.91	per sq.ft. of building area		
Area-specific DCL	$5.89	per sq.ft. of building area		
Interim Financing	5.0%	on 50% of all costs assuming a	1.75	year construction period
Applied to	75.0%	of construction costs		
Applied to	50.0%	of land costs		
Property Taxes During Development	1.386%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$57,207,229	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Marketing	$250,000			
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of office space during lease-up
Sales Commission upon completion	2%			

Attachment 5 continued:

2.0 Analysis

Value:	
Lease Revenue	$4,736,170
Recovered Operating Costs	$2,783,767
Parking Income	$490,759
Total Gross Revenue	$8,010,696
Less Operating Costs	$3,148,081
Less Management	$0
Less Structural	$0
Net Operating Income	$4,862,614
Capitalized Value	$114,414,458
Less Commission	$2,288,289
Net Proceeds	$112,126,169
Total Value per sq.ft. buildable	**$613**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$57,446,928
Sustainability Features	$0
Allowance to finish common areas	$457,380
Fit-Up	$4,372,335
Upfront Leasing Commissions	$805,149
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$918,680
Permits and Professional fees (soft costs)	$5,182,571
Management	$2,023,776
Development Fee	$0
Contingency	$2,262,865
GVRD Sewer Levy	$81,048
Vancouver City-wide DCL	$2,544,862
Vancouver Area-specific DCL	$1,077,426
Property Taxes during Development	$643,321
Less property taxes during approvals	$24,260
Interim Financing	$2,575,470
Total Costs Before Land and Profit	$81,065,990
Profit:	$14,919,645
Land Residual:	
Land Residual Before Holding Costs	$16,140,534
Less interim financing on land for construction/approvals	$817,115
Less property transfer tax	$436,975
Residual Land Value	$14,862,184
Value per sq.ft. buildable	**$81**

Attachment 6: Amount of office need to breakeven with existing land value if FSR 1.0 of industrial is required.

Residual Land Value Analysis
Hypothetical Mixed-Use Building built in the I-2 Zone with to 1.0 FSR of Industrial and 3.25 FSR Office (Breakeven)

Assumptions

Site and Building Size Assumptions:					
Assumed Site Size	43,560	or	1.0	acre	
FSR	4.25				
Project Size	185,130				
Gross Retail Area	0	sq. ft.			
Gross Office Area	141,570	sq. ft.			
Gross Industrial Area	43,560	sq. ft.			
Rentable Area (Retail)	0	sq. ft. or	100%	of gross area	
Rentable Area (Office)	134,492	sq. ft. or	95%	of gross area	
Rentable Area (Industrial)	43,560	sq. ft. or	100%	of gross area	
Parking (Retail and Office)	1	stall per	100	sq. m. for the first 300 sq.m., then 1 per additional 50 sq.m	
Parking (Industrial)	1	stall per	93	square metres of gross area	
Total Stalls	287				
Underground/structured Parking Stalls	270				
Surface Parking Stalls	17		400	sf each	
Revenue and Value Assumptions:					
Retail Value, Leasing and Commissions					
Average Retail Lease Rate for Retail Space	$35.00	per sq. ft. net			
Operating Costs	$20.00	per sq. ft.			
Capitalization Rate for Retail Space	5.00%				
Value of Retail Space on Lease Up	$665	per sq. ft. (	5.00%	allowance for vacancy	
Commission on Sale of Retail Space	2.00%				
TI on Retail Space	$50.00	psf			
Office Value, Leasing and Commissions					
Average Retail Lease Rate for Office Space	$30.00	per sq. ft. net			
Operating Costs	$18.00	per sq. ft.			
Capitalization Rate for Office Space	4.25%				
Value of Retail Space on Lease Up	$671	per sq. ft. (	5.00%	allowance for vacancy	
Commission on Sale of Office Space	2.00%				
TI on Office Space	$25.00	psf			
Industrial Value, Leasing and Commissions					
Average Retail Lease Rate for Retail Space	$16.00	per sq. ft. net			
Operating Costs	$8.00	per sq. ft.			
Capitalization Rate for Industrial Space	4.75%				
Value of Retail Space on Lease Up	$320	per sq. ft. (	5.00%	allowance for vacancy	
Commission on Sale of Industrial Space	2.00%				
TI on Industrial Space	$0.00	psf			
Profit Allowance	13.0%	of value			
Cost Assumptions:					
Demolition Allowance	$50,000				
Site Servicing (sidewalks, landscaping, etc)	$0	per acre			
Allowance for piling, stabilization	$0	per gross sq.ft.			
Building Construction Costs (to base building commerical)	$240	per sq.ft.			
Building Construction Costs (to base building industrial)	$200	per sq.ft.			
Parking Construction Costs	$45,000	per stall (assuming underground)			
Parking Construction Costs	$7,500	per stall (assuming at grade)			
Base Building Hard Construction Costs	$297	per sq.ft. buildable (including parking)			
Allowance to finish common areas	$0	per sq.ft. of common area			
Soft Costs (including project management)	12%	of hard costs			
Contingency	3.5%	of hard and soft costs			
City of Vancouver DCL	$59.74	per sq. m. of floorspace			
Layered DCL (False Creek Flats)	$63.39	per sq. m. of floorspace			
Metro Vancouver DCL	$0.443	per sq. ft. of floorspace			
Interim Financing	5.0%	on 50% of all costs assuming a	1.25	year construction period	
Share of Costs Financed	75.0%				
Property Taxes During Development	1.44%	applied to land value in Year 1	$3,500,000		
		applied to 50% of gross value of building in Year 2, which is:			$51,022,533
Upfront Leasing Commissions	17%	of Year 1 revenue			
Lease-up period after construction complete	6	months, or	0.5	years	
Assumed up-front vacancy cost during lease-up	$42.35	per sq.ft. (i.e. lease revenue+operating costs) on	25%	of space during lease-up	
Sales Commission	2%				

Attachment 6 continued:

Analysis

Revenue	
Retail Value	$0
Office Value	$90,188,418
Industrial Value	$13,939,200
Total Commercial Value	$104,127,618
Commission on Commercial Sale	$2,082,552
Total Value Net of Commissions	$102,045,065
Costs	
Demolition Allowance	$50,000
Site Servicing	$0
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$54,983,610
Allowance to finish common areas	$0
Marketing/T.I.	$3,194,173
Upfront Leasing Commissions	$804,390
Upfront Vacancy Cost during Lease-up	$980,100
Soft Costs (including project management)	$6,598,033
Contingency	$2,155,358
City of Vancouver DCL	$1,027,476
Layered DCL (False Creek Flats)	$1,090,253
Metro Vancouver DCL	$82,013
Property Taxes during Development	$233,935
Interim Financing	$1,668,735
Total Costs Before Land and Profit	$72,868,075
Total Costs per sq.ft. buildable	**$394**
Profit:	$13,306,677
Land Residual:	
Land Residual Before Holding Costs	$15,870,314
Less interim financing on land	$885,266
Less property taxes during approvals	$25,184
Less property closing costs	$149,599
Residual Land Value	$14,810,265
Value per sq.ft. buildable	**$80**

8.2 I-3 Sites

Attachment 7: Value of I-3 sites under existing zoning.

Residual Land Value Analysis
Assume 3.0 FSR Office Building is Built Under Existing I-3 Zoning
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:						
Assumed Site Size	43,560					
Frontage	300	ft				
FSR	3.00					
Project Size	130,680	sq.ft.				
Retail Space	0	sq.ft.				
Office Space	130,680	sq.ft.				
Retail Rentable Area	100.0%	or	0	sq.ft.		
Office Rentable Area	95.0%	or	124,146	sq.ft.		
Total Parking Stalls	243	stalls or 1 per	50.0	sq. metres of commercial space		
Revenue and Value Assumptions:						
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance				
Average Retail Net Lease Rate	$35.00	per sq.ft.				
Operating Costs	$18.00	per sq.ft. of rentable area				
Annual Vacancy Allowance	5.0%					
Property Management	0.0%	of lease revenue (included in operating costs)				
Structural Allowance	0.0%	of lease revenue				
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month				
Capitalization Rate	4.25%					
Profit Allowance	15.00%	of costs or	13.0%	of value		
Cost Assumptions:						
Rezoning Application Fee	$0					
Rezoning Costs	$0					
Demolition Allowance	$50,000					
Public Art Contribution	$0.00	per gross sq.ft.				
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage		
Allowance for piling, stabilization	$0	per gross sq.ft.				
Building Construction Costs (to base building - shell)	$240	per sq.ft.				
Parking Construction Costs	$45,000	per stall (assuming underground parking)				
Base Building Hard Construction Costs	$324	per sq.ft. buildable (including parking)				
Sustainability Features	0%					
Allowance to finish common areas	$50	per sq.ft. of common area				
Fit-up Allowance	$25	per rentable square foot				
Permits and Professional fees (soft costs)	9%	of hard costs				
Management	3%	of hard costs, fit up, and professional fees				
Development Fee	0%	of hard costs, fit up, management and professional fees				
Contingency	3.5%	of hard and soft costs				
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses				
Vancouver City-wide DCL	$13.91	per sq.ft. of building area				
Area-specific DCL	$5.89	per sq.ft. of building area				
Interim Financing	5.0%	on 50% of all costs assuming a		1.75	year construction period	
Applied to	75.0%	of construction costs				
Applied to	50.0%	of land costs				
Property Taxes During Development	1.386%	applied to land value in Year 1		$3,500,000		
		applied to 50% of gross value of building in Year 2, which is:				$44,684,936
Upfront Leasing Commissions	17%	of Year 1 revenue				
Marketing	$250,000					
Lease-up period after construction complete	6	months, or		0.5 years		
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on			50%	of office space during lease-up
Sales Commission upon completion	2%					

Attachment 7 continued:

2.0 Analysis

Value:	
Lease Revenue	$3,538,161
Recovered Operating Costs	$2,122,897
Parking Income	$371,790
Total Gross Revenue	$6,032,848
Less Operating Costs	$2,234,628
Less Management	$0
Less Structural	$0
Net Operating Income	$3,798,220
Capitalized Value	$89,369,873
Less Commission	$1,787,397
Net Proceeds	$87,582,475
Total Value per sq.ft. buildable	**$670**
Costs:	
Rezoning Application Fee	$0
Rezoning Costs	$0
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$42,340,320
Sustainability Features	$0
Allowance to finish common areas	$326,700
Fit-Up	$3,103,650
Upfront Leasing Commissions	$601,487
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$744,876
Permits and Professional fees (soft costs)	$3,822,976
Management	$1,487,809
Development Fee	$0
Contingency	$1,667,789
GVRD Sewer Levy	$57,891
Vancouver City-wide DCL	$1,817,759
Vancouver Area-specific DCL	$769,590
Property Taxes during Development	$513,123
Less property taxes during approvals	$24,260
Interim Financing	$1,893,787
Total Costs Before Land and Profit	$59,609,214
Profit:	$11,653,831
Land Residual:	
Land Residual Before Holding Costs	$16,319,430
Less interim financing on land for construction/approvals	$826,171
Less property transfer tax	$442,070
Residual Land Value	$15,026,928
Value per sq.ft. buildable	**$115**

8.3 IC-3 Sites

Attachment 8: Value under existing zoning.

Mixed-Use Wood Frame Strata Residential built to 3.0 FSR under Existing IC-3 Zoning
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

Major Assumptions ***(shading indicates figures that are inputs; unshaded cells are formulas)***

Site and Building Size						
Site Size	43,560	sq.ft.				
	300	feet of frontage				
Base Density	3.00	FSR				
Density with Bonuses	3.00	FSR				
Assumed Commercial Density	0.50	FSR				
Residential Density Before Exclusions	2.50	FSR				
Enclosed Balconies	0.00		0%	of residential		
Storage	0.10		39.8	sf per unit		
Effective Residential Density After Bonuses and Exclusions	2.60	FSR				
Total Effective Gross Density After Bonuses and Exclusions	3.10	FSR				
Total Gross floorspace	124,045	gross sq.ft.				
Commercial floorspace	21,780	sq.ft.				
Retail	10,764	sq.ft.				
Office	11,016	sq.ft.				
Market Strata Residential floorspace	113,281	gross square feet				
Net saleable space	96,289	sq.ft. or	85%	of gross area		
Average Gross unit size	1,030	sq.ft. gross				
Average Net unit size	875	sq.ft.				
Number of units	110	units or	272	per hectare		
Total Market Strata Unit Parking Stalls (including visitors)	121	stalls or	1.1	per unit		
Total Retail Parking Stalls	17		3	for first 300 square metres and then		
Total Office Parking Stalls	0		1	per 50 square metres of additional retail space		
Total Parking Stalls	138	stalls				
Underground/structured parking stalls provided	138	stalls	55,387	square feet		
Surface parking stalls	0	stalls				
Strata Revenue and Value						
Average Sales Price Per Sq. Ft.	$950	per sq.ft. of net saleable residential space				
Parking Stall(s)	$0	per stall				
Overall Average Sales Price Per Sq. Ft.	$950	per sq.ft. of net saleable residential space				
Retail Revenue and Value						
Average Retail Lease Rate for Retail Space	$0.00	per sq. ft. net				
Capitalization Rate for Retail Space	5.00%					
Value of Retail Space on Lease Up	$0	per sq. ft. of leasable area, with	5.00%	allowance for vacancy		
Office Revenue and Value						
Average Office Lease Rate for Retail Space	$30.00	per sq. ft. net				
Capitalization Rate for Office Space	4.25%					
Value of Office Space on Lease Up	$671	per sq. ft. of leasable area, with	5.00%	allowance for vacancy		
Pre-Construction Costs						
Density Bonus	$0.00	psf				
Rezoning Application Fee	$0					
Allowance for Rezoning Costs	$0					
Construction Costs						
Allowance for Demolition of Existing Buildings	$50,000					
Site Servicing	$137,195	or	$1,500	per metre of frontage		
Connection fees	$50,000					
Hard Construction Costs						
Market Strata Residential Area	$175	per gross sq.ft. of residential area				
Commercial Area	$240					
Cost Per Underground Parking Stall	$45,000	per underground parking stall				
Cost Per Surface Parking Stall	$7,500	per at grade stall				
Overall Costs Per Square Foot	$231	per gross sq.ft.				
Additional Sustainability Costs	0.0%					
Hard Cost Used in Analysis	$231					
Landscaping	$217,800	or	$10	per sq.ft. on 50% of site		
Soft costs/professional fees (excluding management)	9.0%	of above				
Project Management	3.0%	of above				
Car Share Costs	$0					
Post Construction Holding Costs	$500	per unit per month on	50%	of units	6	months
Contingency on hard and soft costs	3.5%	of hard and soft costs				
Local Government Levies						
Regional Levy - Apartment	$590	per market unit				
Regional Levy - Commercial	$0.443	per sq.ft. of floorspace				
Residential DCLs	$13.91	per sq.ft. of floorspace				
Commercial DCLs	$13.91	per sq.ft. of floorspace				
Layered DCLs	$5.89	per sq.ft. of floorspace				
Financing Assumptions						
Financing rate on construction costs	5.0%	on 50% of costs, assuming a	1.75	year construction period		
		and a total loan of	75%	on costs		
Financing fees	1.00%	of financed construction costs				
Financing on Land Acquisition	5.0%	during construction on	50%	of land cost		
Marketing and Commissions						
Commissions/sales costs on residential	3.0%	of gross strata market residential revenue				
Commissions on commercial sale	2.0%	of commercial value				
Marketing on residential	3.0%	of gross strata market residential revenue				
Leasing commissions on commercial	17.0%	of Year 1 income				
Marketing/TI on commercial space	$25	psf				
Property Taxes						
Tax Rate (res)	0.32%	of assessed value				
Tax Rate (comm)	1.39%					
Current assessment (Year 1 of analysis)	$3,500,000					
Assumed assessment after 1 year of construction (Year 2 of analysis)	$45,737,226	(50% of completed project value)				
Allowance for Developer's Profit	15.0%	of total costs or	13.0%	of gross revenue		

Attachment 8 continued:

Analysis

Revenue	
Gross Market Residential Sales Revenue	$91,474,452
Less commissions and sales costs	$2,744,234
Net residential sales revenue	$88,730,218
Retail Value	$0
Office Value	$7,387,256.97
Total Commercial Value	$7,387,257
Commission on Commercial Sale	$147,745
Net commercial value	$7,239,512
Total Value Net of Commissions	$95,969,730
Project Costs	
Rezoning Application Fee	$0
Allowance for Rezoning Costs	$0
Allowance for Demolition of Existing Buildings	$50,000
Density Bonus Contribution	$0
Site Servicing	$137,195
Connection fees	$50,000
Hard construction costs	$28,638,579
Landscaping	$217,800
Soft costs	$2,618,422
Project Management	$951,360
Residential Marketing	$2,744,234
Commercial Marketing	$269,098
Leasing commissions on commercial space	$56,182
Post Construction Holding Costs	$82,500
Car Share	$82,500
Contingency on hard and soft costs	$1,256,425
Regional Levy - Apartment	$64,900
Regional Levy - Commercial	$4,768
DCLs - residential	$1,575,739
DCCs - commercial	$149,726
Layered DCLs	$730,516
Less property tax allowance during development	$154,762
Construction financing	$1,307,076
Financing fees/costs	$308,563
Total Project Costs Before Land Related	$41,450,347
Allowance for Developer's Profit	$12,891,567
Residual to Land and Land Carry	**$41,627,817**
Less financing on land during construction and approvals	$2,177,655
Less property purchase tax	$1,161,505
Residual Land Value	**$38,288,657**
Residual Value per sq.ft. of gross buildable floorspace	**$309**

8.4 IC-2 Sites

Attachment 9: Value of IC-2 under existing zoning.

1.0 FSR Office and Retail Building Built in the IC-2 Zone
Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560	or	1.0	acre
FSR	1.00			
Project Size	43,560			
Gross Retail Area	21,780	sq. ft.		
Gross Office Area	21,780	sq. ft.		
Rentable Area (Retail)	21,780	sq. ft. or	100%	of gross area
Rentable Area (Office)	20,691	sq. ft. or	95%	of gross area
Parking (Retail and Office)	1	stall per	100	sq. m. for the first 300 sq.m., then 1 per additional 50 sq.m
Total Stalls	73			
Underground/structured Parking Stalls	73			
Surface Parking Stalls	0		400	sf each
Revenue and Value Assumptions:				
Retail Value, Leasing and Commissions				
Average Retail Lease Rate for Retail Space	$35.00	per sq. ft. net		
Operating Costs	$20.00	per sq. ft.		
Capitalization Rate for Retail Space	5.00%			
Value of Retail Space on Lease Up	$665	per sq. ft. (	5.00%	allowance for vacancy
Commission on Sale of Retail Space	2.00%			
TI on Retail Space	$50.00	psf		
Office Value, Leasing and Commissions				
Average Retail Lease Rate for Office Space	$30.00	per sq. ft. net		
Operating Costs	$18.00	per sq. ft.		
Capitalization Rate for Office Space	4.25%			
Value of Retail Space on Lease Up	$671	per sq. ft. (	5.00%	allowance for vacancy
Commission on Sale of Office Space	2.00%			
TI on Office Space	$25.00	psf		
Profit Allowance	13.0%	of value		
Cost Assumptions:				
Demolition Allowance	$50,000			
Site Servicing (sidewalks, landscaping, etc)	$137,195	per acre		
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building commerical)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground)		
Base Building Hard Construction Costs	$315	per sq.ft. buildable (including parking)		
Soft Costs (including project management)	12%	of hard costs		
Contingency	3.5%	of hard and soft costs		
City of Vancouver DCL	$59.74	per sq. m. of floorspace		
Layered DCL (False Creek Flats)	$63.39	per sq. m. of floorspace		
Metro Vancouver DCL	$0.443	per sq. ft. of floorspace		
Interim Financing	5.0%	on 50% of all costs assuming a	1.00	year construction period
Share of Costs Financed	75.0%			
Property Taxes During Development	1.44%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$13,895,832	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost during lease-up	$51.50	per sq.ft. (i.e. lease revenue+operating costs) on	25%	of space during lease-up
Sales Commission	2%			

Attachment 9 continued:

Analysis

Revenue	
Retail Value	$14,483,700
Office Value	$13,875,141
Industrial Value	$0
Total Commercial Value	$28,358,841
Commission on Commercial Sale	$567,177
Total Value Net of Commissions	$27,791,664
Costs	
Demolition Allowance	$50,000
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$13,721,400
Marketing/T.I.	$1,580,411
Upfront Leasing Commissions	$235,115
Upfront Vacancy Cost during Lease-up	$280,418
Soft Costs (including project management)	$1,646,568
Contingency	$537,879
City of Vancouver DCL	$241,759
Layered DCL (False Creek Flats)	$256,530
Metro Vancouver DCL	$19,297
Property Taxes during Development	$50,369
Interim Financing	$351,693
Total Costs Before Land and Profit	$19,108,633
Total Costs per sq.ft. buildable	**$439**
Profit:	$3,624,033
Land Residual:	
Land Residual Before Holding Costs	$5,058,998
Less interim financing on land	$241,883
Less property taxes during approvals	$25,184
Less property closing costs	$47,919
Residual Land Value	$4,744,011
Value per sq.ft. buildable	**$109**

8.5 Rental Apartment Analysis

Attachment 10: Land value assuming market rental apartment (2016 market rents)

Major Assumptions ***(shading indicates figures that are inputs; unshaded cells are formulas)***

Market Rental Revenue and Operating Cost Assumptions

Rental Rate per square foot per month	$3.39	psf per month or	$2,014	per unit
Monthly Parking Revenue	$100	per month		
Vacancy and Non Recoverable Allowance	2.00%			
Operating costs for New Rental Units	$5,000	per unit per year		
Property Tax Allowance				
Residential Assessment (upon completion of new building)	$88,800,000	(see capitalized value to side)		
Residential Tax Rate	0.317%			
Residential Property Taxes	$281,111			
Capitalization Rate for Rental Apartment Space	3.75%			
Value of Rental Units Upon Completion	$800.26	per sq.ft. of net rental area		
Net GST (assuming builder holds units)	5.00%	of capitalized value of rental units		
Commission on Sale of Rental Units	2.00%	of value		
Initial Lease Up Costs	$1,000	per unit		
Fees, legal and survey for rental portion	$0			
Site and Building Size				
Site size	43,560	sq.ft. or	1.00	acre
	300	by	145	feet
Permitted FSR	3.00	FSR		
Bonus	0.00	FSR		
Total Overall Density	3.00	FSR		
Total Gross floorspace	130,680	sq.ft.		
Gross Residential Space	130,680	sq.ft. or	3.00	FSR
Market Rental residential floorspace	130,680	gross square feet or	3.00	FSR
Market Rental units	187	units		
Average rental unit size	699	gross square feet		
Average rental unit size	594	net square feet	85%	of gross area
Market Rental parking stalls	104	stalls or	1.00	stalls per 125 sq.metres + 7.5% for visitors
Underground/structured parking stalls provided	104	stalls with	0	stalls at surface (portion of retail plus visitor stalls)
Umet Parking Requirement (payment in lieu)	0			
Payment in lieu of parking	$0	per stall		
Construction Costs				
Allowance for Rezoning Costs	$0			
Rezoning Application Fee	$0			
Allowance for Demolition of Existing Buildings	$0			
On-Site Servicing (Upgrade of adjacent roads/sidewalks/etc)	$137,195	or	$1,500	per lineal metre of frontage
Landscaping	$217,800	or	$10	per sq.ft. on 50% of site
Hard Construction Costs				
Market Rental Residential Area	$240	per gross sq.ft. of rental residential area		
Cost Per Underground Parking Stall	$45,000	per underground/structured parking stall		
Cost Per Surface Parking Stall	$5,000	per at grade stall		
Overall Costs Per Square Foot	$275.81	per gross sq.ft.		
LEED Premium	0.0%			
Total Estimated Cost per Square Foot	$275.81			
Hard Cost Used in Analysis	$275.81			
Soft costs (1)	9.0%	of hard costs		
Management	3.0%	of hard costs		
Contingency on hard and soft costs	3.5%	of hard and soft costs		
GVRD Sewer Levy - Market Rental Residential	$590.00	per unit		
Rental Residential DCLs	$13.91	per sq.ft. of floorspace		
Area Specific DCLs	$5.89	per sq.ft. of floorspace		
Interim financing on construction costs	5.0%	on 50% of hard and soft costs, assuming a	1.75	year construction period
	75%	of costs financed		
Land Financing	5.0%			
	50%	of land costs financed		
Financing fees	1.0%	on construction loan		
Other Costs and Allowances				
Developer's Profit	13.0%	of gross revenue, or	15.00%	of total costs
Property Taxes	0.3166%	of assessed value		
Assumed current assessment (Year 1 of analysis)	$0			
Assumed assessment after 1 year of construction (Year 2 of analysis)	$44,445,486	(50% of completed project value)		

Capitalized Value

Rental Rev	$4,517,089	
Parking	$124,800	
Total	$4,641,889	$3.48
Vacancy	$92,838	
Net	$4,549,051	
Op Costs	$934,528.02	20.13%
Taxes	$281,111	6.22%
NOI	$3,333,411	
Capitalized Value	$88,890,972	
	$800	psf rentable

Attachment 10 Continued:

Analysis

Revenue	
Gross Market Rental Value	$88,890,972
Commissions on Rental Portion	$1,777,819
Net sales revenue	$87,113,153
Project Costs Costs	
Allowance for Rezoning Costs	$0
Rezoning Application Fee	$0
Allowance for Demolition of Existing Buildings	$0
On-Site Servicing (Upgrade of Adjacent Roads/Sidewalks/Etc)	$137,195
Fees, legal and survey for rental portion	$0
Landscaping	$217,800
Payment in lieu of parking stalls	$0
Hard construction costs	$36,043,200
Soft costs	$3,243,888
Management	$1,081,296
Contingency on hard and soft costs	$1,425,318
GVRD Sewer Levy - Market Rental Residential	$110,330
DCLs (Including Area Specific DCL)	$2,587,464
Leasing costs for market rental units	$187,000
Less property tax allowance during approvals/development	$105,525
Net GST (assuming builder holds units)	$4,444,549
Interim financing	$1,626,961
Financing fees/costs	$384,079
Total Project Costs Before Land	$51,594,604
Developer's Profit	$11,591,383
Residual to Land and Land Carry	**$23,927,165**
Less interim financing on land during DP approvals/presales/construction	$1,251,690
Less property purchase tax	$524,928
Residual Land Value	**$22,150,548**
Residual Value per sq.ft. of site	**$509**
Residual Value per sq.ft. buildable	**$170**

Attachment 11: Land value assuming Rental 100 apartment (2016 maximum permitted rents).

Major Assumptions *(shading indicates figures that are inputs; unshaded cells are formulas)*

Market Rental Revenue and Operating Cost Assumptions

Rental Rate per square foot per month	$2.96	psf per month or	$1,758	per unit
Monthly Parking Revenue	$100	per month		
Vacancy and Non Recoverable Allowance	2.00%			
Operating costs for New Rental Units	$5,000	per unit per year		
Property Tax Allowance				
Residential Assessment (upon completion of new building)	$74,400,000	(see capitalized value to side)		
Residential Tax Rate	0.317%			
Residential Property Taxes	$235,526			
Capitalization Rate for Rental Apartment Space	3.75%			
Value of Rental Units Upon Completion	$670.41	per sq.ft. of net rental area		
Net GST (assuming builder holds units)	5.00%	of capitalized value of rental units		
Commission on Sale of Rental Units	2.00%	of value		
Initial Lease Up Costs	$1,000	per unit		
Fees, legal and survey for rental portion	$0			

Capitalized Value

Rental Rev	$3,943,633	
Parking	$99,840	
Total	$4,043,473	$3.03
Vacancy	$80,869	
Net	$3,962,604	
Op Costs	$934,528.02	23.11%
Taxes	$235,526	5.97%
NOI	$2,792,550	
Capitalized Value	$74,468,004	
	$670	psf rentabl

Site and Building Size

Site size	43,560	sq.ft. or	1.00	acre
	300	by	145	feet
Permitted FSR	3.00	FSR		
Bonus	0.00	FSR		
Total Overall Density	3.00	FSR		
Total Gross floorspace	130,680	sq.ft.		
Gross Residential Space	130,680	sq.ft. or	3.00	FSR
Market Rental residential floorspace	130,680	gross square feet or	3.00	FSR
Market Rental units	187	units		
Average rental unit size	699	gross square feet		
Average rental unit size	594	net square feet	85%	of gross area
Market Rental parking stalls	83	stalls or	1.00	stalls per 125 sq.metres + 7.5% for visitors
Underground/structured parking stalls provided	83	stalls with	0	stalls at surface (portion of retail plus visitor stalls)
Umet Parking Requirement (payment in lieu)	0			
Payment in lieu of parking	$0	per stall		

Construction Costs

Allowance for Rezoning Costs	$0			
Rezoning Application Fee	$0			
Allowance for Demolition of Existing Buildings	$0			
On-Site Servicing (Upgrade of adjacent roads/sidewalks/etc)	$137,195	or	$1,500	per lineal metre of frontage
Landscaping	$217,800	or	$10	per sq.ft. on 50% of site
Hard Construction Costs				
Market Rental Residential Area	$240	per gross sq.ft. of rental residential area		
Cost Per Underground Parking Stall	$45,000	per underground/structured parking stall		
Cost Per Surface Parking Stall	$5,000	per at grade stall		
Overall Costs Per Square Foot	$268.65	per gross sq.ft.		
LEED Premium	0.0%			
Total Estimated Cost per Square Foot	$268.65			
Hard Cost Used in Analysis	$268.65			
Soft costs (1)	9.0%	of hard costs		
Management	3.0%	of hard costs		
Contingency on hard and soft costs	3.5%	of hard and soft costs		
GVRD Sewer Levy - Market Rental Residential	$590.00	per unit		
Rental Residential DCLs	$0.00	per sq.ft. of floorspace		
Area Specific DCLs	$0.00	per sq.ft. of floorspace		
Interim financing on construction costs	5.0%	on 50% of hard and soft costs, assuming a	1.75	year construction period
	75%	of costs financed		
Land Financing	5.0%			
	50%	of land costs financed		
Financing fees	1.0%	on construction loan		

Other Costs and Allowances

Developer's Profit	13.0%	of gross revenue, or	15.00%	of total costs
Property Taxes	0.3166%	of assessed value		
Assumed current assessment (Year 1 of analysis)	$0			
Assumed assessment after 1 year of construction (Year 2 of analysis)	$37,234,002	(50% of completed project value)		

Attachment 11 Continued:

Analysis

Revenue	
Gross Market Rental Value	$74,468,004
Commissions on Rental Portion	$1,489,360
Net sales revenue	$72,978,643
Project Costs Costs	
Allowance for Rezoning Costs	$0
Rezoning Application Fee	$0
Allowance for Demolition of Existing Buildings	$0
On-Site Servicing (Upgrade of Adjacent Roads/Sidewalks/Etc)	$137,195
Fees, legal and survey for rental portion	$0
Landscaping	$217,800
Payment in lieu of parking stalls	$0
Hard construction costs	$35,107,200
Soft costs	$3,159,648
Management	$1,053,216
Contingency on hard and soft costs	$1,388,627
GVRD Sewer Levy - Market Rental Residential	$110,330
DCLs (Including Area Specific DCL)	$0
Leasing costs for market rental units	$187,000
Less property tax allowance during approvals/development	$88,403
Net GST (assuming builder holds units)	$3,723,400
Interim financing	$1,482,233
Financing fees/costs	$349,913
Total Project Costs Before Land	$47,004,965
Developer's Profit	$9,710,628
Residual to Land and Land Carry	**$16,263,050**
Less interim financing on land during DP approvals/presales/construction	$850,761
Less property purchase tax	$328,667
Residual Land Value	**$15,083,623**
Residual Value per sq.ft. of site	**$346**
Residual Value per sq.ft. buildable	**$115**

Part 2

Supplemental Review of Possible Zoning Changes in False Creek Flats

(17 March 2017)

Supplemental Review of Possible Zoning Changes in False Creek Flats

Coriolis Consulting Corp.

17 March 2017

1.0 Introduction

As part of our ongoing participation in the development of land use, development, and zoning policy for False Creek Flats, we have been asked to evaluate the land use and market effects of some additional possible zoning changes.

2.0 I-3 Zone

This zone allows FSR 3 of office type space. The proposed change is to allow up to FSR 5, with two requirements:

- Use of 1 FSR at grade for a light industrial type use.
- Provision of an economic development benefit, which might be a cash contribution the City can use to build/own space that can be provided to industrial or arts uses or might be provision of some of the space.

We estimate that I-3 sites are worth about $15 million per acre based on FSR 3.0. Increasing the density to 5 FSR (4 office plus 1 light industrial) increases land value to about $19 million per acre. See Attachment A.

This lift in value could be used to generate economic development benefits in any of the following ways:

- If the City wants to have control over industrial type space (at grade) in the project, we estimate that the allocation of space would be 4 FSR market office, 0.6 FSR market industrial, and 0.4 City-owned industrial. We assume the City would take ownership of a strata lot or take a very long term lease. We assume that occupants of the City space would at least pay their share of operating expenses. See Attachment B.
- If the City wants to have control over office type space (upper floor) in the project, we estimate that the allocation of space would be around 1 FSR market industrial, 3.75 FSR market office, and 0.25 FSR City-owned office. See Attachment C.
- If the City wants a financial contribution, the “CAC” would be say $4.0 million (the land lift) per acre, times 75% (the City typical share) divided by the extra 2 FSR and divided by 43,560 square feet of site, or about $35 per square foot of buildable space. This is less than the value of simply adding FSR 2 of office (which would be worth about $90 times 0.75) because of the obligation to provide FSR 1 of manufacturing space.

These values would be affected by the degree of freedom the developer has to accommodate office tenants. If the range of potential tenants is severely restricted, the value would probably be lower. The difference between allowing DEICT plus Creative Products Manufacturing versus allowing General Office is probably not large in this location.

3.0 IC-2

This zone allows FSR 3, but only 1 FSR can be something other than manufacturing, without relaxation. Residential is not allowed. The proposal is to allow a significant increase in density (to FSR 6.5) and a wider range of uses including manufacturing, retail, studio, office (to a total of 3.5 FSR) and rental residential (to 3.0 FSR).

Notwithstanding the limited range of allowable uses, sites in this zone are assessed at between $20 million and $25 million per acre, presumably because of the high value for some kinds of service commercial and retail uses and redevelopment potential for office. These values strike us as high but there has been a transaction near this price.

The proposed change creates a lift in value, to more than $30 million per acre (if all the rental is at market).

The increase in value creates opportunities for the City to achieve economic benefits in different ways, including cost contribution or space, but the amount depends on what one assumes is the form of development and the mix of uses. Because of the high exposure of these sites, it probably makes sense to take a cash contribution and acquire/create economic amenity space in a lower value location.

There are so few sites in the IC-2 zone that the benefits contribution could be evaluated on a case-by-case basis, depending on density, mix of uses, site location, and the nature of the space. The proposed addition of rental housing and the relaxation of the limit of 1 FSR on non-manufacturing will create a lift in land value.

4.0 MC-1

The MC-1 zone allows an outright density of FSR 0.75 but allows relaxations to up to FSR 2.5 for several employment uses and up to FSR 1.8 for residential. The proposed change is to allow FSR 0.7 ground floor industrial and 1.8 FSR residential above, which appear to already be inside the bounds of achievable density.

The potential lift depends on whether or under what circumstances relaxations would be allowed (either for more employment space or for residential). A simple assumption would be to treat the residential space as new, with value of $170 per square foot buildable for market rental and $115 per square foot buildable for Rental 100.

We want to flag a concern about encouraging residential on top of industrial use in this area (parcels fronting along Malkin), if the intent is to ensure that sites in this area continue to provide space for large floor plate warehouse users. Building forms with large floor plate industrial can be difficult to integrate with residential above. Adding residential will likely add costs that could limit the associated land value gain. We suggest that residential be allowed only if the full ground floor light industrial component is provided.

5.0 Residential in the I-3 Edges and Between Prior/Malkin

Specific values will depend on the combination of uses. Rental residential land values are as in the other districts above. One way to estimate the potential for space is to divide the market value of office space (say $650 per square foot) by the rental land value ($170), so that the City could achieve say 3 to 4 square feet of office space for each square foot of rental.

Attachment A

Residual Land Value Analysis
1.0 FSR Industrial and 4.0 FSR office mix.

Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560			
Frontage	300	ft		
FSR	5.00			
Project Size	217,800	sq.ft.		
Light Industrial	43,560	sq.ft.		
Non-Profit Light Industrial	0	or,	0.0	FSR
Office Space	174,240	sq.ft.		
Light Industrial, Non-Profit Light Industrial. Space Rentable Area	100.0%	or	43,560	sq.ft.
Office Rentable Area	95.0%	or	165,528	sq.ft.
Parking (Industrial)	44	stalls or 1 per	93	square metres of gross area
Parking(Office)	324	stalls or 1 per	50.0	sq. metres of commercial space
Total Parking Stalls	368			
Assumed Surface Stalls	15			
Revenue and Value Assumptions:				
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance		
Light Industrial	$18.00	per sq.ft.		
Non-Profit Light Industrial	$0.00	non-profit light industrial		
Operating Costs for Office Space	$18.00	per sq.ft. of rentable area		
Operating Costs for Light Industrial and Non Profit Industrial	$8.00	per sq.ft. of rentable area		
Annual Vacancy Allowance (Not applied to Non-Market Space)	5.0%			
Property Management	0.0%	of lease revenue (included in operating costs)		
Structural Allowance	0.0%	of lease revenue		
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month		
Capitalization Rate	4.25%			
Profit Allowance	15.00%	of costs or	13.0%	of value
Cost Assumptions:				
Rezoning Application Fee	$12,722			
Rezoning Costs	$200,000			
Demolition Allowance	$50,000			
Public Art Contribution	$0.00	per gross sq.ft.		
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building - shell)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground parking)		
	$7,500	per stall (assuming surface parking)		
Base Building Hard Construction Costs	$313	per sq.ft. buildable (including parking)		
Sustainability Features	0%			
Allowance to finish common areas	$50	per sq.ft. of common area		
Fit-up Allowance	$25	per rentable square foot		
Fit-up Allowance for Art, Light Industrial, etc. Space	$25	per rentable square foot		
Permits and Professional fees (soft costs)	9%	of hard costs		
Management	3%	of hard costs, fit up, and professional fees		
Development Fee	0%	of hard costs, fit up, management and professional fees		
Contingency	3.5%	of hard and soft costs		
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses		
Vancouver City-wide DCL	$13.91	per sq.ft. of building area		
Area-specific DCL	$5.89	per sq.ft. of building area		
Interim Financing	5.0%	on 50% of all costs assuming a	1.75	year construction period
Applied to	75.0%	of construction costs		
Applied to	50.0%	of land costs		
Property Taxes During Development	1.386%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$68,921,436	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Marketing	$250,000			
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of office space during lease-up
Sales Commission upon completion	2%			

Attachment A ~ Continued

2.0 Analysis

Value:	
Lease Revenue	$5,462,424
Recovered Operating Costs	$3,161,585
Parking Income	$562,297
Total Gross Revenue	$9,186,306
Less Operating Costs	$3,327,984
Less Management	$0
Less Structural	$0
Net Operating Income	$5,858,322
Capitalized Value	$137,842,873
Less Commission	$2,756,857
Net Proceeds	$135,086,015
Total Value per sq.ft. buildable	**$620**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$68,171,400
Sustainability Features	$0
Allowance to finish common areas	$544,500
Fit-Up	$5,227,200
Upfront Leasing Commissions	$928,612
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$993,168
Permits and Professional fees (soft costs)	$6,147,774
Management	$2,402,726
Development Fee	$0
Contingency	$2,685,266
GVRD Sewer Levy	$96,485
Vancouver City-wide DCL	$3,029,598
Vancouver Area-specific DCL	$1,282,651
Property Taxes during Development	$765,117
Less property taxes during approvals	$24,260
Interim Financing	$3,049,878
Total Costs Before Land and Profit	$95,998,554
Profit:	$17,974,711
Land Residual:	
Land Residual Before Holding Costs	$21,112,751
Less interim financing on land for construction/approvals	$1,068,833
Less property transfer tax	$578,590
Residual Land Value	$19,441,068
Value per sq.ft. buildable	**$89**

Attachment B

Residual Land Value Analysis
Breakeven for non-profit space assuming 1.0 FSR Industrial/non-profit industrial and 4.0 FSR office mix.

Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560			
Frontage	300	ft		
FSR	5.00			
Project Size	217,800	sq.ft.		
Light Industrial	27,160	sq.ft.		
Non-Profit Light Industrial	16,400	or,	0.376	FSR
Office Space	174,240	sq.ft.		
Light Industrial, Non-Profit Light Industrial. Space Rentable Area	100.0%	or	27,160	sq.ft.
Office Rentable Area	95.0%	or	165,528	sq.ft.
Parking (Industrial)	44	stalls or 1 per	93	square metres of gross area
Parking(Office)	324	stalls or 1 per	50.0	sq. metres of commercial space
Total Parking Stalls	368			
Assumed Surface Stalls	15			
Revenue and Value Assumptions:				
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance		
Light Industrial	$18.00	per sq.ft.		
Non-Profit Light Industrial	$0.00	non-profit light industrial		
Operating Costs for Office Space	$18.00	per sq.ft. of rentable area		
Operating Costs for Light Industrial and Non Profit Industrial	$8.00	per sq.ft. of rentable area		
Annual Vacancy Allowance (Not applied to Non-Market Space)	5.0%			
Property Management	0.0%	of lease revenue (included in operating costs)		
Structural Allowance	0.0%	of lease revenue		
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month		
Capitalization Rate	4.25%			
Profit Allowance	15.00%	of costs or	13.0%	of value
Cost Assumptions:				
Rezoning Application Fee	$12,722			
Rezoning Costs	$200,000			
Demolition Allowance	$50,000			
Public Art Contribution	$0.00	per gross sq.ft.		
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building - shell)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground parking)		
	$7,500	per stall (assuming surface parking)		
Base Building Hard Construction Costs	$313	per sq.ft. buildable (including parking)		
Sustainability Features	0%			
Allowance to finish common areas	$50	per sq.ft. of common area		
Fit-up Allowance	$25	per rentable square foot		
Fit-up Allowance for Art, Light Industrial, etc. Space	$25	per rentable square foot		
Permits and Professional fees (soft costs)	9%	of hard costs		
Management	3%	of hard costs, fit up, and professional fees		
Development Fee	0%	of hard costs, fit up, management and professional fees		
Contingency	3.5%	of hard and soft costs		
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses		
Vancouver City-wide DCL	$13.91	per sq.ft. of building area		
Area-specific DCL	$5.89	per sq.ft. of building area		
Interim Financing	5.0%	on 50% of all costs assuming a	1.75	year construction period
Applied to	75.0%	of construction costs		
Applied to	50.0%	of land costs		
Property Taxes During Development	1.386%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$65,699,319	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Marketing	$250,000			
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of office space during lease-up
Sales Commission upon completion	2%			

Attachment B ~ Continued

2.0 Analysis

Value:	
Lease Revenue	$5,181,984
Recovered Operating Costs	$3,168,145
Parking Income	$562,297
Total Gross Revenue	$8,912,426
Less Operating Costs	$3,327,984
Less Management	$0
Less Structural	$0
Net Operating Income	$5,584,442
Capitalized Value	$131,398,637
Less Commission	$2,627,973
Net Proceeds	$128,770,665
Total Value per sq.ft. buildable	**$591**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$68,171,400
Sustainability Features	$0
Allowance to finish common areas	$544,500
Fit-Up	$4,817,200
Upfront Leasing Commissions	$880,937
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$993,168
Permits and Professional fees (soft costs)	$6,147,774
Management	$2,390,426
Development Fee	$0
Contingency	$2,684,836
GVRD Sewer Levy	$96,485
Vancouver City-wide DCL	$3,029,598
Vancouver Area-specific DCL	$1,282,651
Property Taxes during Development	$731,616
Less property taxes during approvals	$24,260
Interim Financing	$3,033,344
Total Costs Before Land and Profit	$95,478,113
Profit:	$17,134,382
Land Residual:	
Land Residual Before Holding Costs	$16,158,170
Less interim financing on land for construction/approvals	$818,007
Less property transfer tax	$437,477
Residual Land Value	$14,878,425
Value per sq.ft. buildable	**$68**

Attachment C

Residual Land Value Analysis
Breakeven for non-profit space assuming 1.0 FSR Industrial and 4.0 FSR office/Non-Profit office mix.

Assumes developer builds, leases, and then sells to an investor and expects a 15% profit margin on total costs

1.0 Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560			
Frontage	300	ft		
FSR	5.00			
Project Size	217,800	sq.ft.		
Light Industrial	43,560	sq.ft.		
Non-Profit Office	10,800	or,	0.248	FSR
Office Space	163,440	sq.ft.		
Light Industrial, Non-Profit Light Industrial. Space Rentable Area	100.0%	or	43,560	sq.ft.
Office Rentable Area	95.0%	or	155,268	sq.ft.
Parking (Industrial)	54	stalls or 1 per	93	square metres of gross area
Parking(Office)	304	stalls or 1 per	50.0	sq. metres of commercial space
Total Parking Stalls	358			
Assumed Surface Stalls	15			
Revenue and Value Assumptions:				
Average Office Net Lease Rate	$30.00	per sq.ft. of rentable area assuming landlord provides fit up allowance		
Light Industrial	$18.00	per sq.ft.		
Non-Profit Office	$0.00	non-profit light industrial		
Operating Costs for Office Space	$18.00	per sq.ft. of rentable area		
Operating Costs for Light Industrial and Non Profit Industrial	$8.00	per sq.ft. of rentable area		
Annual Vacancy Allowance (Not applied to Non-Market Space)	5.0%			
Property Management	0.0%	of lease revenue (included in operating costs)		
Structural Allowance	0.0%	of lease revenue		
Assumed Net Parking Revenue (after op costs - 15%)	$127.50	per stall per month		
Capitalization Rate	4.25%			
Profit Allowance	15.00%	of costs or	13.0%	of value
Cost Assumptions:				
Rezoning Application Fee	$12,722			
Rezoning Costs	$200,000			
Demolition Allowance	$50,000			
Public Art Contribution	$0.00	per gross sq.ft.		
Site Servicing (sidewalks, landscaping, etc)	$137,195	or	$1,500	per metre of frontage
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building - shell)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground parking)		
	$7,500	per stall (assuming surface parking)		
Base Building Hard Construction Costs	$311	per sq.ft. buildable (including parking)		
Sustainability Features	0%			
Allowance to finish common areas	$50	per sq.ft. of common area		
Fit-up Allowance	$25	per rentable square foot		
Fit-up Allowance for Art, Light Industrial, etc. Space	$25	per rentable square foot		
Permits and Professional fees (soft costs)	9%	of hard costs		
Management	3%	of hard costs, fit up, and professional fees		
Development Fee	0%	of hard costs, fit up, management and professional fees		
Contingency	3.5%	of hard and soft costs		
GVRD Sewer Levy (GVS&DD Development Cost Levy)	$0.443	per sq.ft. of building area for non-residential uses		
Vancouver City-wide DCL	$13.91	per sq.ft. of building area		
Area-specific DCL	$5.89	per sq.ft. of building area		
Interim Financing	5.0%	on 50% of all costs assuming a	1.75	year construction period
Applied to	75.0%	of construction costs		
Applied to	50.0%	of land costs		
Property Taxes During Development	1.386%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$65,424,151	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Marketing	$250,000			
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost on office during lease-up	$48.00	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of office space during lease-up
Sales Commission upon completion	2%			

Attachment C ~ Continued

2.0 Analysis

Value:	
Lease Revenue	$5,170,014
Recovered Operating Costs	$3,072,539
Parking Income	$548,204
Total Gross Revenue	$8,790,757
Less Operating Costs	$3,229,704
Less Management	$0
Less Structural	$0
Net Operating Income	$5,561,053
Capitalized Value	$130,848,302
Less Commission	$2,616,966
Net Proceeds	$128,231,336
Total Value per sq.ft. buildable	**$589**
Costs:	
Rezoning Application Fee	$12,722
Rezoning Costs	$200,000
Demolition Allowance	$50,000
Public Art Contribution	$0
Site Servicing	$137,195
Allowance for piling, stabilization	$0
Hard Construction (including parking)	$67,735,800
Sustainability Features	$0
Allowance to finish common areas	$544,500
Fit-Up	$4,970,700
Upfront Leasing Commissions	$878,902
Marketing	$250,000
Upfront Vacancy Cost during Lease-up	$931,608
Permits and Professional fees (soft costs)	$6,108,570
Management	$2,380,787
Development Fee	$0
Contingency	$2,667,880
GVRD Sewer Levy	$96,485
Vancouver City-wide DCL	$3,029,598
Vancouver Area-specific DCL	$1,282,651
Property Taxes during Development	$728,755
Less property taxes during approvals	$24,260
Interim Financing	$3,019,748
Total Costs Before Land and Profit	$95,050,162
Profit:	$17,062,619
Land Residual:	
Land Residual Before Holding Costs	$16,118,556
Less interim financing on land for construction/approvals	$816,002
Less property transfer tax	$436,349
Residual Land Value	$14,841,945
Value per sq.ft. buildable	**$68**

Part 3

Supplemental Review of Possible Zoning Changes in False Creek Flats

(20 March 2017)

Supplemental Review of Possible Zoning Changes in False Creek Flats

Coriolis Consulting Corp.

20 March 2017

1.0 Introduction

As part of our ongoing participation in the development of land use, development, and zoning policy for False Creek Flats, we have been asked to evaluate the land use and market effects of some additional possible zoning changes.

2.0 Additional Scenarios for I-3 Zoning Changes

Two other possible options are being considered for some I-3 sites:

- Shifting from 3 FSR office to 1 FSR office plus 2 FSR rental residential. We have estimated the base value of I-3 to be about $15 million per acre. Shifting 2 FSR from office to rental residential adds around $5 million per acre in land value, assuming market rental housing. In rough terms, the calculation is 43,560 sq. ft. site x 2 FSR x ($170 psfb - $115 psfb) = $4.8 million. The $170 minus $115 is the difference in supportable land value between market rental residential and office.
- Shifting from 3 FSR office to a total of 5 FSR with 1 FSR industrial, 2 FSR office, and 2 FSR market rental residential. The supportable land value for this mix is about $25 million per acre. In rough terms, this is made up of about $10 million in office value, $1 million in industrial value, and $14 million in residential value.

3.0 Additional Scenario for Some I-2 Sites

There are some sites that run between Atlantic on the north side and Malkin on the south side. Because of terrain, these sites could possibly be developed with industrial space at grade on the Malkin side and some form of residential over part of the industrial, fronting on Atlantic. This combination would be challenging on a level site, but with the grade change it is possible to add residential. The City wants to test townhouse as the allowable use. There might be some challenge incorporating parking, which would either be in integral individual garages accessed from Atlantic or in a parking structure accessed from Malkin integrated with the industrial parking.

The base value of I-2 sites for industrial use is about $5 million per acre. Assuming the industrial value (or functionality) is not compromised in any way, then the gain in value is based on the estimated 1.8 FSR that is achievable in a dense townhouse configuration. Assuming rental units, the gain is about $13 million per acre.

4.0 Allocating Potential CACs

The various zoning changes being considered create considerable potential for land lift in different parts of False Creek Flats. The City is considering the possibility that some of this land lift can be translated into public benefits and, because of the ability of False Creek Flats to accommodate a wide range of employment uses in existing and emerging sectors of the regional economy, the City is exploring the possibility of achieving public benefits that can support employment growth, diversity, and intensification rather than the typical resident-oriented benefits such as daycare or community centre space. Possibilities include maker centres (space and equipment), incubators for start-ups, arts/cultural supports, or affordable space for small industrial users being priced out of the market.

These economic benefits could be achieved in different ways:

- Requiring development projects to incorporate some “economic amenity” space in projects.
- Taking cash in lieu for use in creating City-owned “economic amenity” space on stand-alone sites.

The former approach has the advantage of not requiring the use of City-owned land and it also means that these uses will be scattered across the study area. There are several disadvantages, though. Spaces will necessarily have a wide range of sizes, with limited flexibility to adapt to changing tenant sizes because the spaces will be in different locations. There will also be a regulatory/administrative load because there will be a need to manage a variety of individual small leasehold spaces in different buildings. As well, this approach will mean that in some cases the City will be taking higher value space than it needs (i.e. taking ground floor space that would otherwise be retail on sites with high exposure). Finally, there may also be pushback from developers, who will be concerned about the nature of industrial users that will be occupants of the City-controlled space within the buildings.

As an alternative, the City could collect cash in lieu and pool these funds to create one or more projects aimed at accommodating a variety of economic uses at affordable rents. This approach requires the City to have land, and this strikes us as another advantage of the approach. If the City can acquire and hold industrial land in False Creek Flats, it will create the long term ability to accommodate employment uses in a variety of spaces without the upward market pressure on rent that comes from rising land values. If the City acquires industrial land before the effect of zoning changes kicks in, it can use high value CACs (from new residential and office density) to acquire land at industrial prices.

Part 4

Supplemental Review of Possible Zoning Changes in False Creek Flats

(2 May 2017)

Supplemental Review of Possible Zoning Changes in False Creek Flats

2 May 2017

Coriolis Consulting Corp.

1.0 Introduction

As part of our ongoing participation in the development of land use, development, and zoning policy for False Creek Flats, we have been asked to evaluate some specific proposed changes to zoning regulations in parts of the study area.

This supplemental review addresses these four questions:

1. What are the implications of the proposed new I-3A zoning schedule for the viability of redevelopment and for the provision of amenity contributions?
2. What are the implications of the proposed new IC-2A zoning schedule for the viability of redevelopment and for the provision of amenity contributions?
3. What are the financial implications of rezoning a small area of I-3 near the hospital precinct to allow some rental housing?
4. What are the financial implications of rezoning some sites (645 Malkin and 900 Heatley) from I-2 to a new zone that allows ground floor industrial and stacked townhouses (rental) above?

2.0 I-3A Zone

The existing I-3 zone allows FSR 3.0 of office (with some limitations on the type of office). Some retail uses are also allowed. There is no requirement to use the ground floor for an industrial use.

The proposed change in I-3A is to allow an increase in total density to FSR 5.0, with the office being able to be used for a wider range of office uses, provided that FSR 1.0 the ground floor is used for industrial or artist studio.

Relative to the value of I-3 lands, the addition of office density has an upward impact on land value, but the requirement for FSR 1.0 of industrial or studio use has a downward impact on land value (because the ground floor rent will be lower). The City wants to know if the net impact is positive and, if so, what a reasonable amenity contribution might be in exchange for the bonus density.

We have previously estimated the value of I-3 land to be about $15 million per acre, which works out to about $115 per square foot of buildable area for office (and limited retail) use.

We estimate that the net effect of adding more office density and requiring the ground floor to be industrial or studio is to add about $5 million (see Attachment A) to $6 million (see Attachment B) per acre to the total supportable land value assuming full development of the new maximum density of FSR 5.0. The extra land value works out to about $57 to $69 per square foot of extra floor space. This is less than the value of office development entitlements ($115), because the office gain is partly offset by the limitation on ground floor use.

As the City's practice is to seek amenity contributions that are about 75% of land lift, the financial analysis suggests that the supportable amenity contribution rate could be in the range of (in round numbers) $40 to $50 per square foot of extra floor space, for projects going from FSR 3.0 to FSR 5.0.

However, in setting the amenity contribution rate for new office density in False Creek Flats, we recommend that the City take into consideration the rate it seeks for similar uses and densities in nearby locations.

3.0 IC-2A Zone

The existing IC-2 Zone allows employment uses to a maximum of FSR 3.0, although the range of employment uses is narrow and only FSR 1.0 can be office or retail. Residential is not allowed.

Two main changes are proposed:

- A significant broadening of potential employment uses, including allowing up to FSR 3.0 of office (albeit with limitations on the kind of office use).
- The addition of a significant amount of residential density (FSR 3.5).

One of the challenges in the IC-2 Zone is that existing land values (based on assessed values and sales transactions) are significantly higher than the value supported by the existing allowable uses and density.

We estimate existing values as follows:

- Assessed values and transactions are in the range of $20 million to $25 million per acre.
- The uses and densities in the IC-2 zone appear to support about $5 million per acre if one assumes full development of FSR 3.0, due to the limited allowable density for office and the fact that most of the allowable density is industrial, which is not a strong financial performer in a multi-storey concrete building. We estimate that the highest land value supported by existing zoning at these sites (which have high exposure and high accessibility along Main or Great Northern Way) is about $7 million per acre for low density retail and service commercial uses.

The high assessed values and transaction values mean these properties are being valued in the market place based on perceived prospects for rezoning, to allow a more marketable mix of uses and perhaps to allow higher density.

We estimate the land value supported by the proposed zoning changes independently, as the residential opportunity can be viewed as a stand-alone change in allowable use “on top of” any changes in allowable employment use.

The proposed new zone allows two different ways to achieve the new residential density:

- The full FSR 3.5 can be developed as market rental housing. We assume that this would be developed under the Rental 100 regulations. Rental 100 rents) have been increased, so we now estimate that Rental 100 units at 2017 maximum rents will currently support land value of about $160 per sq. ft. buildable (See Attachment C). This means that the full FSR 3.5 of rental housing would add about $24 million per acre of land value to the value of the base of FSR 3.0 for employment use.
- Alternatively, the residential component can be developed as half (FSR 1.75) market strata if the other half (FSR 1.75) residential is in the form of social housing units provided to the City. We estimate that current market strata land values in the study area are about $310 per sq. ft. buildable. We estimate the all-in construction cost of the social housing (concrete construction, parking at 1 stall per 6 units, no developer profit, developer management fee of 5%) to be about $315 per sq. ft., so there is no land value gain.

These numbers indicate that the additional residential density means the City can either obtain 100% of the units as new market rental housing stock, plus potential for a significant CAC, or obtain 50% of the units as new social housing units with no potential for CAC. In our view, it is likely that given these options most developers will elect to use the full residential FSR for market rental housing.

In addition to the residential density, the proposed new IC-2A zone allows a much wider array of employment uses, particularly a broader range of office uses and the ability to use more of the allowable density for office.

We estimate the value of the FSR 3.0 of employment use under the new IC-2A zone to be similar to the value of I-3 land, which is about $15 million per acre based on an office land value of about $115 per sq. ft. buildable.

The total supportable new land value (purchase price plus CAC) assuming the new employment uses plus the FSR 3.5 of market rental is almost $40 million per acre, a significant lift over current market values, which are already over the value supported by the existing IC-2 zone. The total new land value assuming the residential is 50% strata and 50% social housing is about $15 million per acre (i.e. the employment use value) because the new strata residential value all goes to the cost of building the social housing units.

4.0 I-3 Lands Near Hospital Precinct

The City is considering rezoning some specific I-3 sites near the hospital campus. The existing I-3 allows FSR 3.0 of employment use, including some office uses. The proposed new zone would allow a mix of employment and residential use. *The financial analysis of these specific sites is deemed confidential by the City and has been removed from this document.*

5.0 I-2 Lands at 645 Malkin and 900 Heatley

These properties are currently zoned I-2.

The City is considering rezoning these specific sites to reduce the employment component and add potential for residential use. *The financial analysis of the specific sites is deemed confidential by the City and has been removed from this document.*

Attachment A

Residual Land Value Analysis
Hypothetical Mixed-Use Building built in the I-3A Zone with to 1.0 FSR of Industrial and 4.0 FSR Office, Low Cap Rate on Industrial

Assumptions

Site and Building Size Assumptions:				
Assumed Site Size	43,560	or	1.0	acre
FSR	5.00			
Project Size	217,800			
Gross Retail Area	0	sq. ft.		
Gross Office Area	174,240	sq. ft.		
Gross Industrial Area	43,560	sq. ft.		
Rentable Area (Retail)	0	sq. ft. or	100%	of gross area
Rentable Area (Office)	165,528	sq. ft. or	95%	of gross area
Rentable Area (Industrial)	43,560	sq. ft. or	100%	of gross area
Parking (Retail and Office)	1	stall per	100	sq. m. for the first 300 sq.m., then 1 per additional 50 sq.m
Parking (Industrial)	1	stall per	93	square metres of gross area
Total Stalls	367			
Underground/structured Parking Stalls	352			
Surface Parking Stalls	15		400	sf each
Revenue and Value Assumptions:				
Retail Value, Leasing and Commissions				
Average Retail Lease Rate for Retail Space	$35.00	per sq. ft. net		
Operating Costs	$20.00	per sq. ft.		
Capitalization Rate for Retail Space	5.00%			
Value of Retail Space on Lease Up	$665	per sq. ft. of leasable a	5.00%	allowance for vacancy
Commission on Sale of Retail Space	2.00%			
TI on Retail Space	$50.00	psf		
Office Value, Leasing and Commissions				
Average Office Lease Rate for Office Space	$30.00	per sq. ft. net		
Parking Revenue	$127.50	per space, including (-15% for operating costs)		
Operating Costs	$18.00	per sq. ft.		
Capitalization Rate for Office Space	4.25%			
Value of Office Space on Lease Up	$671	per sq. ft. of leasable a	5.00%	allowance for vacancy
Commission on Sale of Office Space	2.00%			
TI on Office Space	$25.00	psf		
Industrial Value, Leasing and Commissions				
Average Industrial Lease Rate for Industrial Space	$18.00	per sq. ft. net		
Operating Costs	$8.00	per sq. ft.		
Capitalization Rate for Industrial Space	4.50%			
Value of Industrial Space on Lease Up	$380	per sq. ft. of leasable a	5.00%	allowance for vacancy
Commission on Sale of Industrial Space	2.00%			
TI on Industrial Space	$25.00	psf		
Profit Allowance	13.0%	of value		
Cost Assumptions:				
Demolition Allowance	$50,000			
Site Servicing (sidewalks, landscaping, etc)	$0	per acre		
Allowance for piling, stabilization	$0	per gross sq.ft.		
Building Construction Costs (to base building commerical)	$240	per sq.ft.		
Building Construction Costs (to base building industrial)	$240	per sq.ft.		
Parking Construction Costs	$45,000	per stall (assuming underground)		
Parking Construction Costs	$7,500	per stall (assuming at grade)		
Base Building Hard Construction Costs	$313	per sq.ft. buildable (including parking)		
Allowance to finish common areas	$0	per sq.ft. of common area		
Soft Costs (including project management)	12%	of hard costs		
Contingency	3.5%	of hard and soft costs		
City of Vancouver DCL	$59.74	per sq. m. of floorspace		
Layered DCL (False Creek Flats)	$63.39	per sq. m. of floorspace		
Metro Vancouver DCL	$0.443	per sq. ft. of floorspace		
Interim Financing	5.0%	on 50% of all costs assuming a	2.00	year construction period
Share of Costs Financed	75.0%			
Property Taxes During Development	1.44%	applied to land value in Year 1	$3,500,000	
		applied to 50% of gross value of building in Year 2, which is:	$66,899,665	
Upfront Leasing Commissions	17%	of Year 1 revenue		
Lease-up period after construction complete	6	months, or	0.5	years
Assumed up-front vacancy cost during lease-up	$44.22	per sq.ft. (i.e. lease revenue+operating costs) on	50%	of space during lease-up
Sales Commission	2%			

Attachment A ~ Continued

Analysis

Revenue		
Retail Value	$0	
Office Value	$111,001,129	
Industrial Value	$16,552,800	
Parking Value	$8,976,000	
Total Commercial Value	$136,529,929	
Commission on Commercial Sale	$2,730,599	
Total Value Net of Commissions	$133,799,331	
Costs		
Demolition Allowance	$50,000	
Site Servicing	$0	
Allowance for piling, stabilization	$0	
Hard Construction (including parking)	$68,171,400	
Allowance to finish common areas	$0	
Marketing/T.I.	$5,020,290	
Upfront Leasing Commissions	$977,486	
Upfront Vacancy Cost during Lease-up	$2,407,680	
Soft Costs (including project management)	$8,180,568	
Contingency	$2,672,319	
City of Vancouver DCL	$1,208,795	
Layered DCL (False Creek Flats)	$1,282,651	
Metro Vancouver DCL	$96,485	
Property Taxes during Development	$1,013,122	
Interim Financing	$3,415,530	
Total Costs Before Land and Profit	$94,496,327	
Total Costs per sq.ft. buildable	**$434**	
Profit:	$17,447,433	
Land Residual:		
Land Residual Before Holding Costs	$21,855,571	
Less interim financing on land	$1,741,616	
Less property taxes during approvals	$25,184	
Less property closing costs	$200,888	
Residual Land Value	$19,887,883	
Value per sq.ft. buildable	**$91**	
Value per sq.ft. of site area	**$457**	
I-3 Existing Value	$15,026,928	
Land Lift	$4,860,955	Industrial Cap of 4.5%
Per Sq. Ft. of Bonus Density	$55.80	

Attachment B

Residual Land Value Analysis
Hypothetical Mixed-Use Building built in the I-3A Zone with to 1.0 FSR of Industrial and 4.0 FSR Office, High Cap Rate on Industrial

Assumptions

Site and Building Size Assumptions:

Assumed Site Size	43,560	or	1.0	acre
FSR	5.00			
Project Size	217,800			
Gross Retail Area	0	sq. ft.		
Gross Office Area	174,240	sq. ft.		
Gross Industrial Area	43,560	sq. ft.		
Rentable Area (Retail)	0	sq. ft. or	100%	of gross area
Rentable Area (Office)	165,528	sq. ft. or	95%	of gross area
Rentable Area (Industrial)	43,560	sq. ft. or	100%	of gross area
Parking (Retail and Office)	1	stall per	100	sq. m. for the first 300 sq.m., then 1 per additional 50 sq.m
Parking (Industrial)	1	stall per	93	square metres of gross area
Total Stalls	367			
Underground/structured Parking Stalls	352			
Surface Parking Stalls	15		400	sf each

Revenue and Value Assumptions:

Retail Value, Leasing and Commissions

Average Retail Lease Rate for Retail Space	$35.00	per sq. ft. net		
Operating Costs	$20.00	per sq. ft.		
Capitalization Rate for Retail Space	5.00%			
Value of Retail Space on Lease Up	$665	per sq. ft. of leasable a	5.00%	allowance for vacancy
Commission on Sale of Retail Space	2.00%			
TI on Retail Space	$50.00	psf		

Office Value, Leasing and Commissions

Average Office Lease Rate for Office Space	$30.00	per sq. ft. net		
Parking Revenue	$127.50	per space, including (-15% for operating costs)		
Operating Costs	$18.00	per sq. ft.		
Capitalization Rate for Office Space	4.25%			
Value of Office Space on Lease Up	$671	per sq. ft. of leasable a	5.00%	allowance for vacancy
Commission on Sale of Office Space	2.00%			
TI on Office Space	$25.00	psf		

Industrial Value, Leasing and Commissions

Average Industrial Lease Rate for Industrial Space	$18.00	per sq. ft. net		
Operating Costs	$8.00	per sq. ft.		
Capitalization Rate for Industrial Space	4.25%			
Value of Industrial Space on Lease Up	$402	per sq. ft. of leasable a	5.00%	allowance for vacancy
Commission on Sale of Industrial Space	2.00%			
TI on Industrial Space	$25.00	psf		
Profit Allowance	13.0%	of value		

Cost Assumptions:

Demolition Allowance	$50,000					
Site Servicing (sidewalks, landscaping, etc)	$0	per acre				
Allowance for piling, stabilization	$0	per gross sq.ft.				
Building Construction Costs (to base building commerical)	$240	per sq.ft.				
Building Construction Costs (to base building industrial)	$240	per sq.ft.				
Parking Construction Costs	$45,000	per stall (assuming underground)				
Parking Construction Costs	$7,500	per stall (assuming at grade)				
Base Building Hard Construction Costs	$313	per sq.ft. buildable (including parking)				
Allowance to finish common areas	$0	per sq.ft. of common area				
Soft Costs (including project management)	12%	of hard costs				
Contingency	3.5%	of hard and soft costs				
City of Vancouver DCL	$59.74	per sq. m. of floorspace				
Layered DCL (False Creek Flats)	$63.39	per sq. m. of floorspace				
Metro Vancouver DCL	$0.443	per sq. ft. of floorspace				
Interim Financing	5.0%	on 50% of all costs assuming a	2.00	year construction period		
Share of Costs Financed	75.0%					
Property Taxes During Development	1.44%	applied to land value in Year 1	$3,500,000			
		applied to 50% of gross value of building in Year 2, which is:			$67,635,496	
Upfront Leasing Commissions	17%	of Year 1 revenue				
Lease-up period after construction complete	6	months, or	0.5	years		
Assumed up-front vacancy cost during lease-up	$44.22	per sq.ft. (i.e. lease revenue+operating costs) on			50%	of space during lease-up
Sales Commission	2%					

Attachment B ~ Continued

Analysis

Revenue		
Retail Value	$0	
Office Value	$111,001,129	
Industrial Value	$17,526,494	
Parking Value	$9,504,000	
Total Commercial Value	$138,031,624	
Commission on Commercial Sale	$2,760,632	
Total Value Net of Commissions	$135,270,991	
Costs		
Demolition Allowance	$50,000	
Site Servicing	$0	
Allowance for piling, stabilization	$0	
Hard Construction (including parking)	$68,171,400	
Allowance to finish common areas	$0	
Marketing/T.I.	$5,020,290	
Upfront Leasing Commissions	$977,486	
Upfront Vacancy Cost during Lease-up	$2,407,680	
Soft Costs (including project management)	$8,180,568	
Contingency	$2,672,319	
City of Vancouver DCL	$1,208,795	
Layered DCL (False Creek Flats)	$1,282,651	
Metro Vancouver DCL	$96,485	
Property Taxes during Development	$1,023,712	
Interim Financing	$3,415,927	
Total Costs Before Land and Profit	$94,507,313	
Total Costs per sq.ft. buildable	**$434**	
Profit:	$17,639,337	
Land Residual:		
Land Residual Before Holding Costs	$23,124,340	
Less interim financing on land	$1,842,721	
Less property taxes during approvals	$25,184	
Less property closing costs	$212,564	
Residual Land Value	$21,043,871	
Value per sq.ft. buildable	**$97**	
Value per sq.ft. of site area	**$483**	
I-3 Existing Value	$15,026,928	
Land Lift	$6,016,943	Industrial Cap of 4.25%
Per Sq. Ft. of Bonus Density	$69.06	

Attachment C

Hypothetical Rental Apartment Development - Rental 100 at 2017 maximum rents

Major Assumptions ***(shading indicates figures that are inputs; unshaded cells are formulas)***

Market Rental Revenue and Operating Cost Assumptions

Rental Rate per square foot per month	$3.22	psf per month or	$1,911	per unit
Monthly Parking Revenue	$100	per month		
Vacancy and Non Recoverable Allowance	2.00%			
Operating costs for New Rental Units	$5,000	per unit per year		
Property Tax Allowance				
Residential Assessment (upon completion of new building)	$96,500,000	(see capitalized value to side)		
Residential Tax Rate	0.317%			
Residential Property Taxes	$305,487			
Capitalization Rate for Rental Apartment Space	3.75%			
Value of Rental Units Upon Completion	$744.83	per sq.ft. of net rental area		
Net GST (assuming builder holds units)	5.00%	of capitalized value of rental units		
Commission on Sale of Rental Units	2.00%	of value		
Initial Lease Up Costs	$1,000	per unit		
Fees, legal and survey for rental portion	$0			

Capitalized Value

Rental Rev	$5,000,630	
Parking	$117,120	
Total	$5,117,750	$3.29
Vacancy	$102,355	
Net	$5,015,395	
Op Costs	$1,090,282.69	21.30%
Taxes	$305,487	6.11%
NOI	$3,619,625	
Capitalized Value	$96,523,325	
	$745 psf rentable	

Site and Building Size

Site size	43,560	sq.ft. or	1.00	acre
	300	by	145	feet
Permitted FSR	3.50	FSR		
Bonus	0.00	FSR		
Total Overall Density	3.50	FSR		
Total Gross floorspace	152,460	sq.ft.		
Gross Residential Space	152,460	sq.ft. or	3.50	FSR
Market Rental residential floorspace	152,460	gross square feet or	3.50	FSR
Market Rental units	218	units		
Average rental unit size	699	gross square feet		
Average rental unit size	594	net square feet	85%	of gross area
Market Rental parking stalls	98	stalls or	1.00	stalls per 125 sq.metres + 7.5% for visitors
Underground/structured parking stalls provided	98	stalls with	0	stalls at surface (portion of retail plus visitor stalls)
Umet Parking Requirement (payment in lieu)	0			
Payment in lieu of parking	$0	per stall		

Construction Costs

Allowance for Rezoning Costs	$0			
Rezoning Application Fee	$0			
Allowance for Demolition of Existing Buildings	$0			
On-Site Servicing (Upgrade of adjacent roads/sidewalks/etc)	$137,195	or	$1,500	per lineal metre of frontage
Landscaping	$217,800	or	$10	per sq.ft. on 50% of site
Hard Construction Costs				
Market Rental Residential Area	$240	per gross sq.ft. of rental residential area		
Cost Per Underground Parking Stall	$45,000	per underground/structured parking stall		
Cost Per Surface Parking Stall	$7,500	per at grade stall		
Overall Costs Per Square Foot	$268.81	per gross sq.ft.		
LEED Premium	0.0%			
Total Estimated Cost per Square Foot	$268.81			
Hard Cost Used in Analysis	$268.81			
Soft costs (1)	9.0%	of hard costs		
Management	3.0%	of hard costs		
Contingency on hard and soft costs	3.5%	of hard and soft costs		
GVRD Sewer Levy - Market Rental Residential	$590.00	per unit		
Rental Residential DCLs	$0.00	per sq.ft. of floorspace		
Area Specific DCLs	$0.00	per sq.ft. of floorspace		
Interim financing on construction costs	5.0%	on 50% of hard and soft costs, assuming a	2.00	year construction period
	75%	of costs financed		
Land Financing	5.0%			
	50%	of land costs financed		
Financing fees	1.0%	on construction loan		

Other Costs and Allowances

Developer's Profit	13.0%	of gross revenue, or	15.00%	of total costs
Property Taxes	0.3166%	of assessed value		
Assumed current assessment (Year 1 of analysis)	$0			
Assumed assessment after 1 year of construction (Year 2 of analysis)	$48,261,662	(50% of completed project value)		

Attachment C ~ Continued

Analysis

Revenue	
Gross Market Rental Value	$96,523,325
Commissions on Rental Portion	$1,930,466
Net sales revenue	$94,592,858
Project Costs Costs	
Allowance for Rezoning Costs	$0
Rezoning Application Fee	$0
Allowance for Demolition of Existing Buildings	$0
On-Site Servicing (Upgrade of Adjacent Roads/Sidewalks/Etc)	$137,195
Fees, legal and survey for rental portion	$0
Landscaping	$217,800
Payment in lieu of parking stalls	$0
Hard construction costs	$40,982,400
Soft costs	$3,688,416
Management	$1,229,472
Contingency on hard and soft costs	$1,618,935
GVRD Sewer Levy - Market Rental Residential	$128,620
DCLs (Including Area Specific DCL)	$0
Leasing costs for market rental units	$218,000
Less property tax allowance during approvals/development	$152,780
Net GST (assuming builder holds units)	$4,826,166
Interim financing	$1,994,992
Financing fees/costs	$413,961
Total Project Costs Before Land	$55,608,738
Developer's Profit	$12,586,642
Residual to Land and Land Carry	**$26,397,479**
Less interim financing on land during DP approvals/presales/construction	$1,534,353
Less property purchase tax	$579,109
Residual Land Value	**$24,284,017**
Residual Value per sq.ft. of site	**$557**
Residual Value per sq.ft. buildable	**$159**

APPENDIX B

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VIA EMAIL

13 September 2017

Mr. Jerry Evans
Director of Real Estate Services
City of Vancouver
Suite 400
507 West Broadway
Vancouver BC
V5Z 0B4

Dear Mr. Evans:

Re: Proposed Density Bonus Charge for New Rental Residential Density in False Creek Flats

Our firm provided market and financial analysis inputs to the City of Vancouver team working on the plan for False Creek Flats. Our work included estimating the land value supported by the proposed new land uses and densities being considered in the plan, to assist the City in selecting the amenity contribution rates to be used in density bonusing or in rezonings.

You have had developer feedback on one aspect of the City's proposed contribution rates, with regard to new bonus density that will be available for rental residential development in some parts of False Creek Flats. You provided me with documentation from the developers you met with, indicating that the developers do not agree with some of the assumptions and values we used in our analysis. You asked me to respond to the developer comments.

To begin, I have summarized our analysis and the City's proposal for new rental residential density:

- We estimated that the land value supportable by new rental residential density, assuming that such projects would proceed under the Rental 100 program, would be about $160 per square foot of buildable space. This value is based on the assumption that the new density is available by way of density bonus (i.e. it is at the developer's option whether to seek the additional density) that will not require rezoning by the developer. Exhibit 1 attached to this letter shows the financial model that yields this land value estimate. This exhibit is the same as the one included in our report as Part 4, Attachment C (May 2017).
- The City has proposed a density bonus contribution rate of $120 per square foot of buildable space, which is below our estimate of the supportable land value.

You provided me with documentation from the developers you met with, including a letter dated September 7 from a group of ten rental developers and the Urban Development Institute.

These documents indicate that the developers are of the view that (a) in principle there should be no charge for new rental residential density and (b) some of our assumptions are incorrect and, if revised, would result in a calculation that shows that rental residential supports no land value.

I have structured my response to these comments in three parts:

- Market evidence of what developers are paying for rental residential development sites and how this evidence compares with our analysis and the City's proposed contribution rate for rental residential bonus density.
- The question of whether in principle there should be any contribution rate for rental housing density bonus.
- The specific comments from the developers about assumptions and values in our financial analysis.

Market Transactions

We have hard evidence of recent transactions in which developers have acquired land with the intent of developing high density, concrete rental residential projects in the vicinity of False Creek Flats. These transactions indicate values of more than $200 per square foot buildable, for development proposals that are all rental residential or all rental residential with some ground floor commercial space.

This is clear evidence that at least some developers believe that rental residential development in Vancouver supports a substantial land value. The market evidence indicates that our estimate of $160 could be light and clearly indicates that making rental residential bonus density available at $120 per square foot buildable (as the City proposes) is well below market value. If developers believe that rental residential is viable when paying $200+ per square foot buildable for development entitlements, it is difficult to see how new rental development entitlements available at $120 per square foot buildable would be unattractive to the market or not financially viable.

The Principle of Financial Contributions for Rental Residential Bonus Density

The letter from the developers states that in principle the amenity contribution for market rental housing should be zero and that "the City should be providing incentives for the development of market rental, not introducing further barriers."

There appear to be three assumptions embedded in these comments. The first assumption is that to be financially viable (and attractive for developers to build), rental residential density must be available at no cost. This is simply not the case in Vancouver, based on market transactions and financial modelling of new rental development projects. Rental residential supports a significant land value and new residential development can be financially attractive if it pays a land value (which is in essence what the density bonus contribution rate is). It is certainly true that new rental residential does not support as much land value as new residential strata. However, in the case of the False Creek Flats plan, the new residential bonus density is only available for rental, so a rental developer does not have to compete with strata developers for land; a rental developer simply has to decide whether obtaining the extra rental residential density (at $120 per square foot buildable) makes for a viable rental project. Considering that developers of market rental have been paying $200+, then the ability to obtain rental density for $120 means that new rental is not only viable but could provide a better return on investment for developers.

The second assumption the developers are making is that making density available for free becomes an incentive to developers. The City already provides incentives for rental, by eliminating DCLs and reducing parking requirements. The developer input suggests that a further incentive (free density) is also necessary to encourage more rental supply.

There are two ways to respond to this. The first response is that if rental developers can obtain bonus rental density for $120 (even though it supports a higher value), then this <u>is</u> a significant incentive. This is already a significant discount from market price, and it creates the conditions for attractive financial performance. In my view, there is no evidence to support the claim that reducing the price of density to zero is necessary to incent rental construction.

The second response is that it is necessary to consider what happens in the land market when extra density is available for free or at significantly discounted cost. People who own under-developed land and want to sell it into the development market are generally astute. When they know that extra density is available on favourable terms, they expect to obtain much or all of this value when they sell the land to a developer. If rental residential density is worth $200 per foot but is available via density bonus for free, this $200 does not turn into a new incentive for a developer who buys a site. The $200 simply becomes part of the purchase price of the land, because the land market is extremely good at capitalizing in the value of additional development entitlements available at a discounted price. The only developers who benefit from bonus density available at a discount price are developers who have already purchased development sites based on the previous allowable maximum density. For them, the additional density at discount pricing is a clear financial gain. The benefit of this discount price density means that their projects will perform better (in financial terms) than projects built by developers who pay full market price for land.

The third assumption being made by the developers is that paying for bonus density constitutes a barrier to new construction. If new density supports land value, then paying this land value (or somewhat less) is not a barrier to supply. As previously noted, going forward developers buying sites will pay this land value one way or another: either by paying for bonus density or by paying for sites that have capitalized in the anticipated value. There is no barrier unless the City tries to achieve benefits that cost more than the density is worth.

In our experience, when developers express the view that a bonus density charge is too high even when it is clearly set at a level that is below market land value (which results in attractive financial performance), there is a good possibility that such developers have already paid a price for land that has capitalized in some or all of the anticipated value of the extra density. It is not that the new bonus density supports no land value; rather, they have already paid the land value when they acquired the site. This situation has arisen at various times and places in the City when the market anticipates future additional density but does not anticipate that such density will be linked with a bonus density contribution or CAC.

One final comment about the principle of density bonus contributions for rental housing is that new rental housing creates needs for amenities such as day care and open space. In principle, if new rental housing can make a contribution and still be financially viable, then it is reasonable to seek contributions as long as there is no impact on the pace or amount of new units that are built.

Specific Comments on Our Financial Analysis

We used financial models to estimate the land value supported by new rental residential, assuming it is available as a density bonus in addition to existing base density. We calibrate our models so that the outcome is consistent with market transaction evidence. As already indicated, we estimated the value assuming Rental 100 parameters to be $160 per square foot buildable.

The developer letter identifies about twenty financial variables for which they think we have used incorrect numbers. I have reviewed them individually.

- **Rental Rates.** We calculated an overall average rent of $3.22 per square foot per month using Rental 100 rent rates (East Side) and our assumed unit sizes and mix. The developers indicate that they think this calculation is incorrect, but I have checked our math and the number is right. In any case, the developer letter states that the rent should be higher ($3.25) not lower, so I don’t understand their point. A higher rent would support a higher land value.

- **Cap Rates.** The value of rental projects is highly sensitive to cap rates so we took great care in choosing the cap rate for this analysis. We have listing evidence, sales evidence, and appraisal evidence supporting cap rates for new rental residential developments in the City in the range of 3.65% to 4.00%, and there is evidence that since we completed our analysis rates may have fallen (we have current listings indicating rates in the 3.5% to 3.7% range for newer buildings). While we would agree that cap rates for rental projects in suburban parts of Metro are higher than what we have used, for a new project in the

City with excellent transit access and proximity to Downtown we are confident that 3.75% is a reasonable value. We would be happy to consider any evidence that supports a higher cap rate, but we have not seen any. The developers note the possibility that rising interest rates might lead to rising cap rates. Over the long term, there is not always a direct correlation between changes in interest rates and changes in cap rates. However, the City should be sensitive to changes in all key financial variables (cap rate, costs, rents) and adjust its density bonus rates if appropriate.

- **Operating Expenses.** We use $5,000 per unit per year, not including property taxes. Adding taxes (which we estimated at $1,400) brings total operating expenses to $6,400. The developers suggest $5,500 and I assume they mean not including taxes, although they are silent on the subject of property tax. The developer correspondence suggests that our number is right for short term costs but should be increased to reflect longer term costs. If a project is evaluated over the longer term, there would be additional costs but there would also be growth in rent rates. Rent rates have tended to rise faster than the rate of inflation on costs (which is one of the reason why cap rates are so low), so I don't agree that longer term operating costs should be factored into the analysis unless we also factor in long term rent growth.
- **Efficiency.** We assume an average ratio of net rentable to gross floor area of 85%. In arriving at this number, we reviewed the efficiency of seven recently approved or planned rental residential developments in the City. These ranged from a low of 77% to a high of 90% and the overall average is more than 85%, so we think our number is reasonable. We know that additional amenity space is sometimes provided in rental buildings, which would lower efficiency, but we are of the view that a developer would only voluntarily add amenity space (as there is no City requirement to do so when rezoning is not involved) if the cost would be offset by extra rent revenue.
- **Hard Construction Cost.** Our figure works out to just under $270 per gross square foot inclusive of underground parking and $271 if we include our landscaping cost. This figure is based on the BDC cost index, the 2017 Altus Cost Guide, and discussions with developers. We understand that costs are rising, so if we updated our analysis to late 2017 we would use a higher number. However, rents have also risen and are likely to continue to rise, so the effect of increased cost is offset by rising rents. The developers suggest that this cost should be $315, which is about $45 per square foot more than our number. We also note that the proposed rental density bonus allows additional floor area on top of an assumed base project. Usually, the marginal extra cost of extra space per square foot is lower than average construction cost per square foot because some costs are already absorbed by the base building (e.g. mobilization and demobilization, excavation, de-watering, foundations, roof).
- **Soft Costs.** We use 9% of hard costs. The developers say these costs range (which is true) but they do not suggest an alternative value. Our number is based on typical projects.
- **Environmental Remediation, Demolition, and Hazardous Material.** We do not include an allowance for these items because the rental residential we are modelling is bonus density on top of the base density already allowed. Any costs for demolition and remediation should be assumed to be carried by the portion of the project that consists of the uses/densities allowed under the base zoning. The extra density available from the bonus does not have to carry these costs.
- **Rental Residential DCLs.** We do not include these costs, as we assumed projects would be built under the Rental 100 program. The developers think these should be included, but then the rents would be market rents (which are currently higher than Rental 100 rents in this location).
- **Contingency on Hard Costs.** We use 3.5% and the developers suggest 5.0%. We see projects in the range of 3% to 5%, so we are in the range of typical projects.
- **Contingency on Soft Costs.** The developers characterize us as using 0% and they indicate the number should be 2%. However, our contingency of 3.5% is applied to all hard and soft costs, so we are actually using a higher contingency than they suggest.
- **Leasing/Commission Costs.** We used $1,000 per unit and the developers suggest $3,418 per unit. We have seen projects with allowances up to $3,000. However, in our view the combination of extremely low rental vacancy, Rental 100 rents (which are a little below market), and the high attractiveness of the False Creek Flats location means that it will not be difficult or expensive to fill up new rental projects in this

area. In any case, an extra $2,500 per unit (i.e. $3 to 4 per square foot or so) is not a significant number relative to the land values under discussion.

- **Management Fees.** We use 3% and the developers suggest 4%. We see projects in the range of 3% to 4%, so we think our number is reasonable.
- **Legal Fees.** We do not show a separate figure for this because we include it in our soft cost allowance.
- **FF&E.** We do not include this as we assume it is part of hard cost. The estimate provided by the developers ($125,000) is not a significant number and would have no material effect on land value if included.
- **Off-Site Costs.** The developers indicate that we do not include an allowance, but our model includes $140,000 for this category. The developers suggest a range of $150,000 to $500,000, so we are close to the low end of their range. Note that this figure should be $0 if the off-sites are assumed to be carried by the base density part of the project.
- **Property Tax Carrying Cost.** The developers say we have included 1 year, but we have included 2.5 years. They suggest 4 years, which may indicate that they assume rezoning is involved (which is not the case). Also, we have not offset the taxes with any holding income that might be available during the approvals period.
- **Interest During Construction and Rent-up.** We assume 2 years of construction and post-construction financing, which should be adequate for the construction of the upper floor space that is the bonus density. The developers say we use $0, but this would only be true if the bonus density takes the full 2 years to build, which we do not think is the case. They allow 2 months, which is already accounted for in our analysis.
- **Financing Fees.** We use 1% as we have seen projects that achieve this rate. The developers suggest 1.5%, which we have also seen.
- **Loan to Cost Ratio for Construction Financing.** We see projects in the range of 65% to 80% and we used 75% which is in this range. The developers suggest 80%, at the high end of the range.
- **Financing Fees, Land Loan.** We do not include this line item. The developers suggest this should be 1%. In some cases, developers do not borrow the land cost. In any event, if we assume that the land cost for the bonus rental residential density is $120 per square foot, a 1% fee would be $1.20 per square foot which is not significant.

To summarize this review of financial line items:

- In some cases, it is our opinion that the values suggested by the developers are incorrect. Cap rate, efficiency, and some of the cost items (e.g. remediation and demolition) are numbers for which we are very confident in our values and we think the numbers suggested by the developers are not consistent with the market or are not appropriate to include (because we are modelling the performance of bonus density above a base density project and there is no rezoning involved).
- In some cases, our numbers are actually quite close or the differences are so small that they have no material impact on the calculation of supportable land value. Leasing cost, FF&E, land loan financing fee, and construction financing fee are examples of numbers where the variance is not material.
- For some numbers, our figures and the developer figures are both within the band that we would call typical. In such cases, we tend to use the low end of the cost range, because we know these numbers are achievable. The developers have tended to use the high end of the cost range.

For illustrative purposes, we have adjusted our model to test the sensitivity to some changes in the numbers.

In Exhibit 2, we show a scenario with these changes:

- We increase hard cost to $300 (an increase of more than 10%) even though we do not adjust the rents upward (market rents have increased since our analysis was completed), but we also eliminate our $140,000 in off-sites assuming they are carried by the base project.
- We increase marketing cost to $3,000 per unit.

These changes drop the land value to $124 per square foot buildable, still slightly higher than the City's proposed rate. We note that if we also adjusted the cap rate in this sensitivity test to 4.25% the land value would fall dramatically to $74. This suggests the cap rate is the most important variable raised by the developers, so it would be highly informative if they could provide evidence of new, concrete, transit oriented rental projects in central Vancouver that are listed or have recently sold at cap rates over 4%.

The developers acknowledge that the density bonus zoning approach generates some financial benefit, which they estimate at $3 million for a hypothetical one acre site. This works out to $20 per square foot buildable, assuming 3.5 FSR of bonus density. The developers then suggest that the City propose a new contribution rate based on their submission. It appears that the industry opinion is that in principle the contribution should be zero but in practice rental has the financial ability to support a contribution but at a lower rate than proposed by the City.

Conclusion

Financial modelling of development projects always involves some uncertainty and ranges. In our view, our estimate is reasonable and seems to be conservative based on actual rental development site transactions. The City's proposed bonus density rate of $120 is financially attractive and is likely to encourage new rental construction in False Creek Flats.

Yours truly,

CORIOLIS CONSULTING CORP.

Jay Wollenberg

Exhibit 1 - Assumptions

Major Assumptions ***(shading indicates figures that are inputs; unshaded cells are formulas)***						
Market Rental Revenue and Operating Cost Assumptions						
Rental Rate per square foot per month	$3.22	psf per month or	$1,911	per unit	**Capitalized Value**	
Monthly Parking Revenue	$100	per month			Rental Rev	$5,000,630
Vacancy and Non Recoverable Allowance	2.00%				Parking	$117,120
Operating costs for New Rental Units	$5,000	per unit per year			Total	$5,117,750
Property Tax Allowance					Vacancy	$102,355
Residential Assessment (upon completion of new building)	$96,500,000	(see capitalized value to side)			Net	$5,015,395
Residential Tax Rate	0.317%				Op Costs	$1,090,282.69
Residential Property Taxes	$305,487				Taxes	$305,487
Capitalization Rate for Rental Apartment Space	3.75%				NOI	$3,619,625
Value of Rental Units Upon Completion	$744.83	per sq.ft. of net rental area			Capitalized Value	$96,523,325
Net GST (assuming builder holds units)	5.00%	of capitalized value of rental units				$745
Commission on Sale of Rental Units	2.00%	of value				
Initial Lease Up Costs	$1,000	per unit				
Fees, legal and survey for rental portion	$0					
Site and Building Size						
Site size	43,560	sq.ft. or	1.00	acre		
	300	by	145	feet		
Permitted FSR	3.50	FSR				
Bonus	0.00	FSR				
Total Overall Density	3.50	FSR				
Total Gross floorspace	152,460	sq.ft.				
Gross Residential Space	152,460	sq.ft. or	3.50	FSR		
Market Rental residential floorspace	152,460	gross square feet or	3.50	FSR		
Market Rental units	218	units				
Average rental unit size	699	gross square feet				
Average rental unit size	594	net square feet	85%	of gross area		
Market Rental parking stalls	98	stalls or	1.00	stalls per 125 sq.metres + 7.5% for visitors		
Underground/structured parking stalls provided	98	stalls with	0	stalls at surface (portion of retail plus visitor stalls)		
Umet Parking Requirement (payment in lieu)	0					
Payment in lieu of parking	$0	per stall				
Construction Costs						
Allowance for Rezoning Costs	$0					
Rezoning Application Fee	$0					
Allowance for Demolition of Existing Buildings	$0					
On-Site Servicing (Upgrade of adjacent roads/sidewalks/etc)	$137,195	or	$1,500	per lineal metre of frontage		
Landscaping	$217,800	or	$10	per sq.ft. on 50% of site		
Hard Construction Costs						
Market Rental Residential Area	$240	per gross sq.ft. of rental residential area				
Cost Per Underground Parking Stall	$45,000	per underground/structured parking stall				
Cost Per Surface Parking Stall	$7,500	per at grade stall				
Overall Costs Per Square Foot	$268.81	per gross sq.ft.				
LEED Premium	0.0%					
Total Estimated Cost per Square Foot	$268.81					
Hard Cost Used in Analysis	$268.81					
Soft costs (1)	9.0%	of hard costs				
Management	3.0%	of hard costs				
Contingency on hard and soft costs	3.5%	of hard and soft costs				
GVRD Sewer Levy - Market Rental Residential	$590.00	per unit				
Rental Residential DCLs	$0.00	per sq.ft. of floorspace				
Area Specific DCLs	$0.00	per sq.ft. of floorspace				
Interim financing on construction costs	5.0%	on 50% of hard and soft costs, assuming a		2.00	year construction period	
	75%	of costs financed				
Land Financing	5.0%					
	50%	of land costs financed				
Financing fees	1.0%	on construction loan				
Other Costs and Allowances						
Developer's Profit	13.0%	of gross revenue, or		15.00%	of total costs	
Property Taxes	0.3166%	of assessed value				
Assumed current assessment (Year 1 of analysis)	$0					
Assumed assessment after 1 year of construction (Year 2 of analysis)	$48,261,662	(50% of completed project value)				

Exhibit 1 (Continued) Analysis

Analysis	
Revenue	
Gross Market Rental Value	$96,523,325
Commissions on Rental Portion	$1,930,466
Net sales revenue	$94,592,858
Project Costs Costs	
Allowance for Rezoning Costs	$0
Rezoning Application Fee	$0
Allowance for Demolition of Existing Buildings	$0
On-Site Servicing (Upgrade of Adjacent Roads/Sidewalks/Etc)	$137,195
Fees, legal and survey for rental portion	$0
Landscaping	$217,800
Payment in lieu of parking stalls	$0
Hard construction costs	$40,982,400
Soft costs	$3,688,416
Management	$1,229,472
Contingency on hard and soft costs	$1,618,935
GVRD Sewer Levy - Market Rental Residential	$128,620
DCLs (Including Area Specific DCL)	$0
Leasing costs for market rental units	$218,000
Less property tax allowance during approvals/development	$152,780
Net GST (assuming builder holds units)	$4,826,166
Interim financing	$1,994,992
Financing fees/costs	$413,961
Total Project Costs Before Land	$55,608,738
Developer's Profit	$12,586,642
Residual to Land and Land Carry	**$26,397,479**
Less interim financing on land during DP approvals/presales/construction	$1,534,353
Less property purchase tax	$579,109
Residual Land Value	**$24,284,017**
Residual Value per sq.ft. of site	**$557**
Residual Value per sq.ft. buildable	**$159**

Exhibit 2 - Assumptions

Major Assumptions ***(shading indicates figures that are inputs; unshaded cells are formulas)***						
Market Rental Revenue and Operating Cost Assumptions						
Rental Rate per square foot per month	$3.22	psf per month or	$1,911	per unit	**Capitalized Value**	
Monthly Parking Revenue	$100	per month			Rental Rev	$5,000,630
Vacancy and Non Recoverable Allowance	2.00%				Parking	$117,120
Operating costs for New Rental Units	$5,000	per unit per year			Total	$5,117,750
Property Tax Allowance					Vacancy	$102,355
Residential Assessment (upon completion of new building)	$96,545,295	(see capitalized value to side)			Net	$5,015,395
Residential Tax Rate	0.317%				Op Costs	$1,090,282.69
Residential Property Taxes	$305,631				Taxes	$305,631
Capitalization Rate for Rental Apartment Space	3.75%				NOI	$3,619,481
Value of Rental Units Upon Completion	$745	per sq.ft. of net rental area			Capitalized Value	$96,519,501
Net GST (assuming builder holds units)	5.00%	of capitalized value of rental units				$745
Commission on Sale of Rental Units	2.00%	of value				
Initial Lease Up Costs	$3,000	per unit				
Fees, legal and survey for rental portion	$0					
Site and Building Size						
Site size	43,560	sq.ft. or	1.00	acre		
	300	by	145	feet		
Permitted FSR	3.50	FSR				
Bonus	0.00	FSR				
Total Overall Density	3.50	FSR				
Total Gross floorspace	152,460	sq.ft.				
Gross Residential Space	152,460	sq.ft. or	3.50	FSR		
Market Rental residential floorspace	152,460	gross square feet or	3.50	FSR		
Market Rental units	218	units				
Average rental unit size	699	gross square feet				
Average rental unit size	594	net square feet	85%	of gross area		
Market Rental parking stalls	98	stalls or	1.00	stalls per 125 sq.metres + 7.5% for visitors		
Underground/structured parking stalls provided	98	stalls with	0	stalls at surface (portion of retail plus visitor stalls)		
Umet Parking Requirement (payment in lieu)	0					
Payment in lieu of parking	$0	per stall				
Construction Costs						
Allowance for Rezoning Costs	$0					
Rezoning Application Fee	$0					
Allowance for Demolition of Existing Buildings	$0					
On-Site Servicing (Upgrade of adjacent roads/sidewalks/etc)	$0	or	$0	per lineal metre of frontage		
Landscaping (included in hard costs)	$0	or	$0	per sq.ft. on 50% of site		
Hard Construction Costs						
Overall Costs Per Square Foot	$300	per gross sq.ft.				
LEED Premium	0.0%					
Total Estimated Cost per Square Foot	$300.00					
Hard Cost Used in Analysis	$300.00					
Soft costs (1)	9.0%	of hard costs				
Management	3.0%	of hard costs				
Contingency on hard and soft costs	3.5%	of hard and soft costs				
GVRD Sewer Levy - Market Rental Residential	$590.00	per unit				
Rental Residential DCLs	$0.00	per sq.ft. of floorspace				
Area Specific DCLs	$0.00	per sq.ft. of floorspace				
Interim financing on construction costs	5.0%	on 50% of hard and soft costs, assuming a		2.00	year construction period	
	75%	of costs financed				
Land Financing	5.0%					
	50%	of land costs financed				
Financing fees	1.0%	on construction loan				
Other Costs and Allowances						
Developer's Profit	13.0%	of gross revenue, or		15.00%	of total costs	
Property Taxes	0.3166%	of assessed value				
Assumed current assessment (Year 1 of analysis)	$0					
Assumed assessment after 1 year of construction (Year 2 of analysis)	$48,259,751	(50% of completed project value)				

Exhibit 2 (Continued) Analysis

Analysis	
Revenue	
Gross Market Rental Value	$96,519,501
Commissions on Rental Portion	$1,930,390
Net sales revenue	$94,589,111
Project Costs Costs	
Allowance for Rezoning Costs	$0
Rezoning Application Fee	$0
Allowance for Demolition of Existing Buildings	$0
On-Site Servicing (Upgrade of Adjacent Roads/Sidewalks/Etc)	$0
Fees, legal and survey for rental portion	$0
Landscaping	$0
Payment in lieu of parking stalls	$0
Hard construction costs	$45,738,000
Soft costs	$4,116,420
Management	$1,372,140
Contingency on hard and soft costs	$1,792,930
GVRD Sewer Levy - Market Rental Residential	$128,620
DCLs (Including Area Specific DCL)	$0
Leasing costs for market rental units	$654,000
Less property tax allowance during approvals/development	$152,774
Net GST (assuming builder holds units)	$4,825,975
Interim financing	$2,204,282
Financing fees/costs	$457,389
Total Project Costs Before Land	$61,442,530
Developer's Profit	$12,586,143
Residual to Land and Land Carry	**$20,560,438**
Less interim financing on land during DP approvals/presales/construction	$1,195,075
Less property purchase tax	$414,182
Residual Land Value	**$18,951,181**
Residual Value per sq.ft. of site	**$435**
Residual Value per sq.ft. buildable	**$124**