



City of Richmond

Report to Development Permit Panel

To: Development Permit Panel

Date: June 23, 2016

From: Wayne Craig
Director of Development

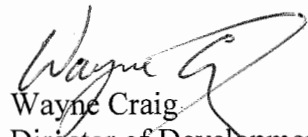
File: DP 11-566011

Re: Application by Ecowaste Industries Ltd. for a Development Permit at
15111 Williams Road and Richmond Key 1095

Staff Recommendation

That a Development Permit be issued which would:

1. Permit the construction of a 65.22 ha (161.14 acres) Industrial Logistics Park at 15111 Williams Road and Richmond Key 1095 on a site zoned "Industrial (I)" that is adjacent to the Agricultural Land Reserve and several Environmental Sensitive Areas, and
2. Vary the provisions of Richmond Zoning Bylaw 8500 to:
 - a) Increase the maximum building height from 12.0 m to 13.0 m and that the building height is to be measured from the finished foundation slab and further to apply the Geological Survey of Canada (GSC) datum shown on the phase block plan attached as "Schedule B" as the maximum elevation limits for the tallest point on each building, and
 - b) Reduce the minimum number of parking spaces required to 0.56 spaces per 100 m² of gross leasable floor area for those portions of the building used for freight forwarding services or warehouse storage services.


Wayne Craig
Director of Development

DCB:blg

Staff Report

Origin

Ecowaste Industries Ltd. has applied to the City of Richmond for permission to develop a 65.22 ha (161.14 acres) industrial site at 15111 Williams Road and Richmond Key 1095. The subject properties are adjacent to the Agricultural Land Reserve (ALR), several Environmental Sensitive Areas (ESA) and Riparian Management Areas (RMA).

The portion of the site south of Francis Road (15111 Williams Road) is currently used primarily for sorting and processing construction waste while the portion north of Francis Road (Richmond Key 1095) contains an active construction debris landfill authorized by the Province and operated by the applicant.

The site is currently zoned "Industrial (I)" and a rezoning will not be required for the proposed industrial logistics park. The Development Permit is required because of the adjacency to the ALR and the proposed impacts to the designated ESA and RMA areas, and does not address form and character of the buildings.

The applicant is seeking variances to reduce the parking ratio specific to freight forwarding services or warehouse storage services and to increase the maximum building height as measured from the foundation slab. Both variances are discussed in more detail later in this report.

Development Information

The subject site is located south of Blundell Road and west of the No. 7 Road canal and consists of two (2) separate parcels; one (1) unaddressed no-access lot to the north of Francis Road of approximately 53.35 ha (131.8 acres - Richmond Key 1095) and one (1) to the south of Francis Road with full road access of approximately 11.87 ha (29.3 acres) addressed as 15111 Williams Road. The larger site is currently used as a Ministry of Environment approved construction debris landfill, but is reaching full capacity. Ecowaste Industries is proposing to close the landfill operation in phases as each cell within the landfill reaches its capacity and develop each closed landfill phase sequentially for light uses.

Once the landfill has been closed and capped, it is anticipated that the highest finished grade on the portion of the site north of Francis Road will be approximately 19 m GSC, while the highest finished grade on the parcel south of Francis Road will be approximately 6.7 m GSC.

Ecowaste's proposal is to develop the site in five (5) phases over a period of up to 20 years; beginning with the north part of the site and working south. A conceptual plan, prepared by Ecowaste, indicates potential development of up to 13 large distribution buildings ranging in size from approximately 6,782 m² (73,000 ft²) to 46,452 m² (500,000 ft²), although the number, size and building configuration may vary depending on their client's requirements. Ecowaste's intent is to "build to suit" for their prospective tenants. Upon completion, a total of approximately 265,145 m² (2,854,000 ft²) of light industrial floor space is anticipated to be developed.

Extensive off-site upgrades and installations will be required to support the proposed development, including the construction of a new two-lane bridge over the No. 7 Road Canal providing access to the development, extension and construction of roadways along fronting portions of Blundell Road, Francis Road and Savage Road, new water and sanitary services to the property, and a new storm system discharging directly to the main arm of the Fraser River. The final routing of the storm discharge line will be determined through the Servicing Agreement review process which is identified under the Development Permit considerations (Attachment 2).

Roads through the site (shown on the concept plans as “Road A” and “Road B”) will be privately owned (Statutory Rights-of-Way to allow public right-of-passage) and maintained by the owner. Because of the time span involved and the nature of the development, the servicing issues and associated agreements will be addressed through several separate Servicing Agreements as outlined later in this report and in the Development Permit considerations.

Subsequent sections of this report provide more information on the development proposal and how it addresses the specific conditions of the site. For a comparison of the proposed development data with the relevant bylaw requirements, please refer to attached Development Application Data Sheet provided in Attachment 1.

Background

Development surrounding the subject site is as follows:

- To the north: A 54 ha (132.5 acre) Agriculture (AG1) zoned parcel owned by Ecowaste Industries and operated as a landfill site under the authority of the Ministry of Environment.
 - To the east: No. 7 Road Canal and Port Metro Vancouver’s Port terminal and associated industrial lands. These properties are zoned “Industrial (I)”.
 - To the south: A Canadian National Railway right-of-way and a 30.35 ha (75 acre) lot owned by Port Metro Vancouver (PMV) are located immediately south of the development site. The PMV site is currently vacant, but is expected to be used for port related industrial uses. The western most portion of PMV’s site is being considered for the proposed Vancouver Airport Fuel Facilities Corp. (VAFFC) jet fuel storage tank facility. The PMV site is zoned “Industrial (I)”.
- On the south side of Williams Road, is a 3.8 ha (9.5 acre) “Industrial (I)” zoned parcel owned by the VAFFC. The VAFFC is proposing to use this property for its YVR marine terminal facility for receiving jet fuel.
- To the west: Across the Savage Road road allowance, five (5) large lots all within the Agricultural Land Reserve. Zoning on four (4) of the properties is Agricultural (AG1); while zoning on the fifth lot is Golf Course (GC). The golf course is known as “Country Meadows”. Only one (1) of these lots is currently being farmed.

Environmental Management Act (EMA) Restriction

As the development site includes an active landfill, Ecowaste has been working with the Province to fulfill the requirements for an "administrative guidance" release which would allow the City's to issue the necessary permits and approvals for this project to proceed. The Development Permit considerations include the requirement for receipt of authorization by the Ministry of Environment prior to the Permit's approval.

Staff Comments

The proposed scheme attached to this report has satisfactorily addressed the significant urban design issues and other staff comments identified as part of the review of the subject Development Permit application. In addition, it complies with the intent of the applicable sections of the Official Community Plan (OCP) and is generally in compliance with the "Industrial (I)" zoning except for the zoning variances noted below.

Zoning Compliance/Variations (staff comments in **bold**)

The applicant requests to:

- 1) Vary the provisions of Richmond Zoning Bylaw 8500 to:
 - a) Increase the maximum height for buildings from 12.0 m to 13.0 m and that the building height is to be measured from the finished foundation slab of each building, and further to apply the Geological Survey of Canada (GSC) datum shown on the phase block plan attached as "Schedule B" as the maximum elevation limits for the tallest point on each building.

(The height variance has been requested by Ecowaste, as the demand within the logistics industry, and industry in general, is for internal building clearances of 11 m (36 ft.) to support their operations. Ecowaste has advised that achieving these internal clearances is critical for this development to attract the AAA tenants they are targeting. These internal clearances will translate into external building heights of approximately 13 m (43 ft.) as measured from the building's finished slabs as opposed to the approach specified in the Zoning Bylaw of measuring the vertical distance between finished site grade and the highest point of the building.

As the elevations of the corners of the lot, which are typically used to calculate the average ground elevation, are well below the proposed final finished height of the site, the standard approach for calculating building height in this site would mean that the proposed buildings would not achieve even the existing bylaw permitted height of 12 m. On this basis the alternative approach is warranted.

This variance also places an absolute maximum to the heights of the proposed buildings since the building height is to be measure from the building slab rather than the average ground surface which will change as the land fill is raised. Any requests for additional height above the proposed height cap will require a separate variance application.

As discussed above, application of the average grade calculation is problematic in this situation and the adjacent public roads are well below the anticipated future final site grade. Based on the submitted cross sections, the two (2) private internal roads ("Road A" and "Road B") will be brought up to approximately the same elevation of the final finished grade of the site. From this perspective, a publically accessible roadway will be provided at a comparable elevation for most of the proposed building's sites.

On the basis of this information staff recommend support for the height variance and the height measurement approach for this development to allow it to respond to the needs of industry.)

- b) Reduce the minimum number of parking spaces required to 0.56 spaces per 100 m² of gross leasable floor area for those portions of the building used for freight forwarding services or warehouse storage services.

(The applicant has retained a traffic consultant to undertake a parking study which included a survey of ten (10) comparable industrial sites in the area, and research best practices for similar situations and other municipalities. The proposed reduced rates are reflective of the typical parking demand observed by the traffic consultant in the area, as well as reflective of a lower parking required by other municipalities. The proposed parking rate for the specified freight forwarding services and warehouse storage services is support by staff accordingly. Other uses will be required to meet the City's standard general industrial parking rates as outlined in the Zoning Bylaw.)

Analysis

City Objectives

Staff worked with Ecowaste and their consultants through several iterations of the redevelopment plan as it evolved. Key objectives identified and addressed in the Ecowaste submission are as follows:

- Address the agricultural lands/industrial interface requirements.
- Identify and address RMA and ESA impacts and compensation requirements.
- Minimize new storm discharges to the No. 7 Road Canal.
- Address the Green Roof Bylaw requirements while incorporating the storm discharge restrictions.
- Ensure appropriate utility service levels to the development while minimizing City liability of infrastructure over the landfill.
- Ensure provision of adequate vehicle access for this development and future transportation needs.
- Minimize new traffic to the Steveston Highway and Highway 99 Interchange.

The responses to these objectives are more fully detailed in the following discussions.

Project Timing

The proposed development of the site is anticipated to occur in sequential phases over a number of years, dependent upon how quickly areas of the landfill operation reach capacity, the market's demand for light industrial buildings and the approach to servicing the site. A series of legal agreements have been identified in the Development Permit Considerations to ensure that subsequent Servicing Agreements, environmental compensation measures and overall site landscaping requirements are developed as specific areas are developed.

ALR Buffer Requirements

The development site is bounded by the Agricultural Land Reserve (ALR) on both its northern side and its western side. The ALR boundary runs adjacent to the development along the length of Blundell Road and Savage Road. Under Section 14.0 "Development Permit Guidelines" of the Official Community Plan (OCP) sites abutting the edge of the Agricultural Land Reserve are required to provide landscape buffers intended to minimize the impacts of new development on agricultural land. These buffers aim to achieve public safety and minimize agricultural-urban land use conflicts and complaints.

Because of the site configuration, there are three (3) different landscaping buffer treatments proposed to respond to the ALR Buffer requirements. The locations and cross sections for these areas are shown on Plans 4a and 4b with each described in more detail in the following text.

Blundell Road

Along Blundell Road, the buffer will be located on the south side of the road on Ecowaste property. The buffer will be approximately 8 m wide; starting from the edge of the parking area and continuing northward down the slope toward Blundell Road. The vegetation plantings within this buffer will consist of appropriate low level ground covers, followed by a solid vegetated hedge/screen and equally spaced trees (a mix of deciduous and coniferous varieties). The shrubs and trees will be spaced to minimize light overspill from vehicles and trucks using the site.

Savage Road (north of Francis Road)

This area will have a gradual slope rising up 13 m over the adjacent service road. An 8 m wide strip will be enhanced to act as the ALR buffer consistent with the Blundell Road buffer and will contain a row of trees and vehicle light screening shrubs at the top of the bank. The balance of the slope will be grassed.

Savage Road (south of Francis Road)

The ALR buffer south of Francis Road will be divided into two halves; a 3 m wide strip in the City right-of-way along the western side of the proposed newly constructed Savage Road and a 3-4 m wide strip on Ecowaste's property at the top of the slope that will provide vehicle light screening. The portion of the buffer on City lands will be maintained by the City after the initial maintenance period has completed.

The buffer on the east side of Savage Road (on the development site) will consist of a double row of shrubs/groundcovers (trespass inhibiting), a single row of solid planted screen (hedge or other) and a single row of trees (a mix of deciduous and coniferous).

The buffer on the west side of Savage Road (on the City's right-of-way) will consist of a 6 ft. high (approximately) fence and a solid planting screen/hedge between fence and edge of the road's curb.

Agricultural Advisory Commission (AAC) Review

Representative detail sections of the proposed planting strips, plant species listings, cross sections and overall selection counts are provided in the plan submission. The proposed ALR buffer configurations were reviewed by the Agricultural Advisory Commission (AAC) initially on September 2011 and again, with a revised plan, on June 21, 2012. The ALR buffer was supported by the AAC at their June 21, 2012 meeting.

As none of these ALR buffers can be planted until the landfill has been raised as each of the landfill cells reaches capacity and is capped off and prepared for industrial redevelopment. The Development Permit considerations include requirements for the registration of legal agreements to provide ALR landscape buffer plans, cost estimates current to the date of submission and landscape securities prior to the Building/Foundation Permits being issued in either phase block A, B, C or E (as per (Schedule B)). The submitted plans are required to be consistent with the ALR buffer plans submitted under this Development Permit and must be to the satisfaction of the Director of Development.

Habitat Impacts

As the site has been used as an active landfill there is very limited ESA vegetation on site. The applicant's consultant, Keystone Environmental, has conducted site investigations and analysis of the site and has found that approximately 6,742 m² (72,570 ft²) identified in the OCP as ESA do not carry sufficient features to warrant that designation. The majority of these areas are stands of invasive shrubs either on Ecowaste's property or within the Savage Road right-of-way.

An ESA response strategy is required because the Biologist's site investigations have identified impacts to approximately 4,383 m² (47,178 ft²) of valued habitat features including 1,440 m² (15,500 ft²) of aquatic habitat and 2,943 m² (31,678 ft²) of terrestrial habitat. The impacts will occur in three (3) areas:

- No. 7 Road Canal due to the installation of the proposed bridge.
- Savage Road, south of Francis Road due to the future construction of Savage Road.
- At Williams Road, by the Fraser River, to accommodate the storm water discharge outfall.

Each of these impacts and the proposed compensation responses are outlined in the following sections.

Riparian Management Area (No. 7 Road Impacts and Compensation)

Vehicle access to the redeveloped site is proposed to be achieved via a new bridge over the No. 7 Road Canal and construction of paved roadway from the Canal to just westward of the proposed "Road B". Construction of the new bridge will result in unavoidable impacts within the No. 7 Road Canal RMA requiring compensation for the loss of approximately 1,373 m² (14,774 ft²) of terrestrial vegetation.

The proposal will provide compensation in the form of invasive species removal and enhancement planting of 3,731 m² (40,161 ft²) on Ecowaste's property adjacent to the No. 7 Road Canal. A representative cross section of the proposed enhancement plan and the overall numbers and types of shrubs proposed for this area is provided in Plan 6. All vegetation species installed for the RMA compensation will be native species.

To secure the RMA planting requirements, the Development Permit Considerations include requirements for submission of a registerable survey plan(s), detailed landscaping plans prepared by a Qualified Landscape and or Environmental Professional reflective of the planting scheme provided as part of this Development Permit and to the satisfaction of the Director of Development, plus appropriate securities prior to issuing the Development Permit. Monitoring and annual reporting of the RMA landscape installation is required for a minimum of five years. The landscaping plans submitted under this application provides a detail for a representative segment of the area to be planted/enhanced plus an overall number of trees, shrubs and ground cover vegetation needed to plant the enhancement area.

The RMA impacts along the No. 7 Road Canal will occur in the first phase of the redevelopment since access to the site from Blundell Road is one of the Development Permit considerations.

Riparian Management Area and Environmentally Sensitive Area (Savage Road South)

Keystone Environmental's assessment indicates that habitat compensation will be required for a total of 2,963 m² (31,895 ft²) of impacts. Of this total, 1,393 m² (14,995 ft²) are impacts to aquatic habitat and 1,570 m² (16,900 ft²) are impacts to terrestrial habitat associated with preloading and construction of the road.

The habitat impacts along Savage Road are not anticipated to occur until preloading for Savage Road is required during the last phase of the development. The Development Permit considerations include a "no build" covenant registered on Title over 15111 Williams Road to ensure that the compensation wetland costs are reassessed at that time and securities submitted covering the cost of construction. Inspections will be carried out by staff upon completion of the installation to ensure that the wetland meets the intent of replacement and enhancement outlined in the Development Permit.

No compensation measures are proposed along the Savage Road corridor south of Francis Road. Compensation for the habitat impacts in this location is proposed to be provided as part of a constructed upland wetland that will be on Ecowaste property (15111 Williams Road) – refer to the Habitat Balance Sheet Summary for more details on the proposed wetland.

Environmentally Sensitive Area (Storm Water Discharge to Fraser River)

With the installation of the proposed storm water direct discharge pipe approximately 47.5 m² (511 ft²) of brackish aquatic impacts will occur with the outfall installation. These impacts are not anticipated to occur until the Storm Water Discharge Servicing Agreement has been agreed to. Compensation habitat is secured through the same "no build" covenant registered on Title over 15111 Williams Road as noted above for Savage Road South.

Compensation for the habitat impacts in this location is proposed to be provided as part of a constructed upland wetland that will be on Ecowaste property (15111 Williams Road). The foreshore aquatic impacts may be subject to approval and additional compensation measures by the Province. This will be determined through the Servicing Agreement for the proposed storm water pipe construction.

Wetland Habitat Compensation

Ecowaste has proposed to construct a wetland habitat in the northeast corner of their property south of Francis Road (15111 Williams Road) to offset ESA and RMA impacts primarily from the Savage Road and Fraser River foreshore area. Ecowaste's plan sets aside an area of approximately 10,000 m² which will be excavated down to the water table to create a ponding area with aquatic plants and ringed by a variety of native riparian vegetation species. Within this area, they propose to provide approximately 1,588 m² of aquatic habitat and 3,230 m² of terrestrial/riparian habitat.

Keystone's wetland feasibility study (Keystone Environmental report dated May 3, 2016) recommends that the water levels be monitored for at least a year prior to construction to ensure the design depth is sufficient to establish a sustainable wetland habitat. The Development Permit considerations include a requirement for submission of a contract with a qualified environmental professional to undertake the monitoring as per the Wetland Feasibility Study.

The wetland habitat compensation will not be created until the last phase of the development project. As this may be a number of years away, the Development Permit considerations include requirements for submission of an updated landscaping design, cost estimate and securities. The requirements are linked to the "no build" covenant over 15111 Williams Road. A vegetation conceptual cross section of the wetland and an overall total number of trees and shrubs proposed for the wetland is provided on Plan 5.

Habitat Balance Sheet Summary

Ecowaste's Development Permit submission includes a detailed habitat balance sheet that indicates where and what type of habitat impacts are expected to occur as a result of the development proposal and correspondingly where and how much habitat compensation is proposed to offset the impacts.

The tables below provide a simplified summary of the habitat impacts and proposed habitat compensation. The overall impacts total approximately 4,383 m² (47,178 ft²). The overall compensation totals 8,651 m² (93,118.6 ft²). The data suggests an overall net benefit of nearly 2 for 1. The tables also indicate that 'like for like' habitat will be created (i.e. both aquatic and terrestrial habitat types are addressed).

Habitat Impact Summary

Location	Aquatic Impacts (m²)	Terrestrial Impacts (m²)
No. 7 Road Canal (Bridge)	-	1,373 m ²
Savage Road & Vicinity	1,393 m ²	1,570 m ²
Fraser River Storm Outfall	47.5 m ²	-
Total Impacts	1,440 m²	2,943 m²

Combined Impact: 4,383 m²

Proposed Habitat Compensation Summary

Location	Aquatic Compensation (m²)	Terrestrial Compensation (m²)
Constructed Wetland	1,588 m ²	3,230 m ²
Williams Road Culvert	32 m ²	70 m ²
No. 7 Road Canal	-	3,731 m ²
Total Compensation	1,620 m²	7,031 m²

Combined Compensation: 8651 m²

Aquatic Balance: Gain - Loss = 1620-1440 = 180 m² gain

Terrestrial Balance: Gain - Loss = 7031-2943=4089 m² gain

Net Habitat Balance: Gain/Loss = 8651/4383 = 1.97 gain to 1 loss

Green Roof Bylaw Response

Two (2) key objectives of the Green Roof Bylaw (Bylaw No. 8385) are: 'runoff control & storm water management' and 'landscaping enhancement'. The solution proposed by Ecowaste in consultation with the Engineering Department is that storm water would be collected on-site and directed through a privately-owned pipe that discharges directly to the main arm of the Fraser River, sufficient to address the 20% reduction in storm water discharge required under the Green Roof Bylaw. Construction of the pipe will occur through a separate Servicing Agreement. The Development Permit considerations include conditions for entering into the Servicing Agreement for this work prior to issuance of the development's second Building Permit.

To address the landscape provisions of the Green Roof Bylaw, Ecowaste has prepared a landscape strategy and a "landscaping master plan" which should result in an approximate five (5) times the amount of landscaping for the entire site as compared to the Zoning Bylaw standards according to the Landscape Strategy submitted by Sharp & Diamond Landscape Architecture (submission dated November 10, 2015). The landscaping master plan provides cross sections, detailed representative planting segments and overall vegetation counts for each phase of the development. These documents will be used to guide the individual landscaping submissions for each of the future building lots.

The Development Permit Considerations include requirements for the submission of detailed planting plans and landscape securities with each Building/Foundation Permit application to the satisfaction of the Director of Development, consistent with the landscaping master plan

submitted as part of this Development Permit. Once an acceptable plan has been approved, the owners will be required to register an agreement on Title, ensuring that the landscaping will be maintained in perpetuity or until the site is redeveloped. These requirements are secured through "no build" legal agreements registered on the Titles of both parcels.

Site Servicing Overview

Ecowaste has worked with City staff to develop a servicing strategy including the following:

- A new two-lane bridge on Blundell Road, with an off-road multi-use pathway, is proposed to be built over the No. 7 Road canal and act as the main access to the site. This bridge and construction of the road surface, curbing, boulevard lighting and off-road pathway features over a portion of Blundell Road will be undertaken in the first phase of the development (as per "Schedule B").
- A restricted temporary discharge of surface storm run-off will be allowed to the No. 7 Road canal from the first phase of the development until a new storm discharge system has been installed leading from the site southward toward Williams Road, through the dike and then to a direct discharge station at the Fraser River as outlined in the Development Permit Considerations
- Water and sanitary utility services will be provided up to the property boundaries. Internal distribution and maintenance within the site will be the responsibility of the property owners. In part, this approach is intended to limit the City's exposure to liability of utility lines over the landfill. The Development Permit considerations include requirements for entering into a License Agreement for construction of the sanitary forcemain across Francis Road prior to the development's first Building Permit issuance on 15111 Williams Road (i.e. the parcel south of Francis Road).
- Road improvements to Blundell Road, Francis Road and Savage Road will be undertaken by the developer under one or more Servicing Agreements. The finished works will include lighting, curbs and gutters, sidewalks and/or off-road multi-use pathways and treed boulevards. Francis and Savage Roads are to be designed and constructed to their ultimate standards, while Blundell Road will be designed and constructed to an interim standard. Blundell Road improvements will occur in the first phase of the development, while Francis Road and Savage Road improvements will occur in the final phase of the development and will be secured through "no build" covenants over the last phase of lands to be developed. These legal agreements will be secured through the Servicing Agreement.
- All roads and sidewalks/pathways on Ecowaste's site will be privately-owned and maintained. This approach is similar to that proposed for the utility services and is again intended to limit the City's exposure to liability of roadways over the landfill. Agreements for public right of access on the main internal roads and sidewalks/pathways will be registered on Title as outlined in the Development Permit considerations as a condition of the Development Permit issuance. Refinements to these agreements may occur through the subsequent Servicing Agreements required at Building Permit stage.

The on-site roads and sidewalks/pathways will be constructed in association with phase blocks A through D (as per "Schedule B") of the development.

Transportation

The Development Permit considerations include the City's requirements for all the road dedications, road cross sections for both public and private roads with public right-of-passage and vehicle parking and loading. The considerations also include requirements for a special crosswalk on Blundell Road at "Road A" and for the acquisition and dedication of a 2000 m² section of Savage Road which is currently under private ownership by Sanstor Farms Ltd. and is within the Agricultural Land Reserve (ALR). Ecowaste will need to undertake a separate application to the Agricultural Land Commission for subdivision (including necessary road dedication) of the 2000 m² section of Savage Road as a requirement of phase block E (as per "Schedule B") Servicing Agreement. This Agricultural Land Commission (ALC) application will need to be considered by Richmond City Council prior to the ALC.

Should Ecowaste be unsuccessful in acquiring the road or obtaining the necessary subdivision approvals the panhandle lands south of Francis Road (Block E) may need to be revisited through either a General Compliance application or a new Development Permit.

The development plans incorporate a cul-de-sac on the future Savage Road construction south of Francis Road. The intent is to restrict new vehicle activity from the development site and development sites east of the No. 7 Road Canal from accessing Steveston Highway and the Highway 99 interchange via Williams Road until such time the necessary road infrastructure is in place. At this time, the objective of these traffic measures is to not increase the traffic generated at the Steveston Highway/Highway 99 Interchange until additional planning and transportation infrastructure upgrades occur along the Highway 99 corridor (including applicable highway interchanges). The Development Permit considerations include a legal agreement restricting vehicles associated with the development to access via Blundell Road. The considerations also require the owners to notify prospective tenants of the restricted access conditions.

Until the development of roads occurs along Savage and Francis Road, secondary access (for emergency vehicles) needs to be provided for the northern lot once buildings are constructed to account for an alternative access route in the event of a blockage on Blundell Road. The proponent has indicated that a network of existing internal service roads currently provides access throughout the development site, including a means to access the entire development site from Williams Road. These roads are currently utilized by Ecowaste vehicles and large trucks for maintenance and monitoring of the former landfill site and access to the active landfill operation on the north side of Blundell Road. The proponent has indicated that these internal service roads will remain (for private maintenance use only – no public access) throughout the build-out of the development and can be utilized to provide for secondary emergency vehicle and fire access. The Development Permit Considerations includes a requirement for registration of a legal agreement providing emergency services access across both properties.

Additional Considerations

The Development Permit considerations include a requirement for the submission of a geotechnical report to be submitted at the Building Permit review stage to ensure that buildings can be safely constructed overtop of the land fill.

Public Art

Pursuant to the City's Public Art Policy (No. 8703) Public Art contributions will be secured with each new Building Permit application through a "no build" Public Art covenant over both parcels. The Public Art covenant is included in the Development Permit considerations. The rate of contribution will be determined as of the date of Building Permit application.

Operating Budget Impacts (OBI)

As a result of the proposed development, the City will take ownership of developer contributed assets such as a bridge, roadworks, waterworks, storm sewers, sanitary sewers, street lights, street trees and traffic signals on Blundell Road and Savage Road. The anticipated operating budget impact for the ongoing maintenance of these assets \$105,000.00. This will be considered as part of the 2018 Operating budget.

Conclusions

Ecowaste has worked closely with staff to refine the site's overall design and develop acceptable servicing strategies for the two (2) parcels. The Development Permit considerations provide sufficient safeguards to ensure that subsequent Servicing Agreements, land dedications, landscaping requirements and ESA /RMA environmental impacts will be appropriately addressed over the development's extended time span. The proposed variances outlined in the Development Permit application have been reviewed and are supported by staff from a technical standpoint in terms of contributing to the creation of a modern logistics hub and the development's unique placement atop a former landfill site. Staff are recommending support for the variances and the redevelopment proposal outlined in this report and the submitted plans.



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(604-276-4200)

DCB:blg

Attachments:

- 1 Development Permit Considerations
- 2 Development Application Data Sheet



Address: 15111 Williams Road and Richmond Key 1095

File No.: DP 11-566011

Prior to approval of the Development Permit, the developer is required to complete the following:

1. Ministry of Environment (MOE) Certificate of Compliance or alternative approval to proceed granted from MOE regarding potential site contamination issues. This approval is required prior to Development Permit Issuance.
2. Flood: Registration of a flood plain covenant on Title identifying a minimum habitable elevation of 3.0 m GSC.
3. Servicing Agreement No Building 15111 Williams Road: Registration of a legal agreement on Title for 15111 Williams Road requiring that, no Building Permit for 15111 Williams Road will be issued until a Servicing Agreement has been entered into for the related servicing works for Francis Road, Savage Road, Williams Road and provision of services to the site, to the satisfaction of the Director of Engineering.
4. Public Art & Landscape Plans: Registration of a legal agreement on Title for 15111 Williams Road and Richmond Key 1095 that with every new Building Permit (excluding tenant interior improvements) a permit will not be issued until the following items have been addressed:
 - 4.1 A voluntary cash contribution shall be made to Richmond's Public Art Reserve fund prior to the issuance of the Building Permit. The contribution is to be based on the approved floor area at each building permit application, the building type and the Public Art Contribution rate at the time of Building Permit application submission.
 - 4.2 Submission of a detailed landscape plan and installation cost estimate (including materials and labour plus contingency) prepared by a BCSLA and appropriate security to the satisfaction of the Director of Development. The submitted landscape plan is to be generally in accordance with the master site landscape plan submitted under DP 11-566011.

The legal agreement is to include clauses ensuring that the enhanced landscaping is maintained in accordance with generally accepted landscaping maintenance practices and the recommendations of the landscape architect in perpetuity or until approved redevelopment. If not already completed for the phase block (see "Schedule B" of DP 11-566011) where the new Building Permit site is located, the landscape plan and security is to include the Agricultural Land Reserve landscape buffer components for that phase block. The detailed agricultural landscaping plan(s) are to be prepared by a Qualified Landscape Professional and acceptable to the Director of Development; showing the type, size and number of trees, shrubs, ground covers and growing medium that will form the ALR landscape buffer.

5. Private Roads: Registration of a Statutory Right of Way inclusive of appropriate survey plan(s) prepared by a BCLS and acceptable to the Director of Engineering and Director of Transportation showing the alignment and extent of internal private roadways and pedestrian/bike pathways (i.e., along "Road A", "Road B" and Blundell Road) on Title providing public right-of-passage (owner to maintain). The dimensions and alignment of the right-of-ways are to be based on the requirements identified under the Engineering Servicing Requirements and the Transportation Requirements sections below. If required, and at the discretion of the Director of Engineering and Director of Transportation, these legal agreements may need to be discharged and replaced or modified as the precise alignment and dimensions of the right-of-ways are refined through subsequent Servicing Agreements associated with each future Building Permit. Except as specified by the Engineering Servicing Requirements and the Transportation Requirements sections liability, construction and maintenance for works within the right-of-ways are the responsibility of the Owner.
6. Vehicle Access Restriction: Registration of a legal agreement on Title of 15111 Williams Road and Richmond Key 1095 the sole vehicle access to/from the both properties will be via Blundell Road unless otherwise

authorized by the Director of Transportation; that is, no vehicular access would be provided to/from the south via Williams Road unless authorized. Exceptions to the access restriction will be made for City utility service vehicles, emergency vehicles, transit vehicles, bicycles and pedestrians. Additionally, the access restrictions will not apply to vehicles engaged in the ongoing landfill and closure operations.

7. Letter of Commitment: Submission of a letter of commitment by Ecowaste to ensure that all future tenants in the development are aware that, unless authorized by the Director of Transportation, access to the proposed development site is to be solely via Blundell Road and not to Williams Road via Savage Road. Exceptions to the access restriction will be made for City utility service vehicles, emergency vehicles, transit vehicles, bicycles and pedestrians.
8. ALR Buffers: Registration of a legal agreement on Title of 15111 Williams Road and Richmond Key 1095 for agricultural landscaping buffers to secure:
 - 8.1 A survey plan prepared by a BCLS showing the dimensions and locations of the Agricultural Land Reserve (ALR) landscaped buffer required along Blundell Road and Savage Road.
 - 8.2 Outlining conditions ensuring that no structures or debris will be placed within the ALR buffer area and that the Agricultural Land Reserve (ALR) landscaped buffer is maintained at the sole cost of the developer/property owner and will not be abandoned or removed. The legal agreement would also indicate that the property is located adjacent to active agricultural operations and that the ALR landscape buffer is to help mitigate against potential agricultural impacts including noise, dust and odour. The agreement is to include clauses giving the City the right to enter the ALR buffer areas to repair and maintain the landscaping, at the sole cost of the developer/property owner, should the owners fail to do so.
9. RMA: Registration of a legal agreement on Title of Richmond Key 1095 for Riparian Management Area (RMA) compensation (No. 7 Road Canal impacts) to secure the following:
 - 9.1 Survey plan(s) prepared by a BCLS showing the dimension and location of the RMA compensation landscaping areas along the No. 7 Road Canal.
 - 9.2 Submission of detailed landscaping plans prepared by a Qualified Landscape and or Environmental Professional with appropriate security (including materials and labour costs plus contingency) to the satisfaction of the Director of Development. The plans shall include the type, size and number of trees, shrubs, ground covers and growing medium that will form the compensation landscaping.;
 - 9.3 RMA Security: Submission of landscaping security to the satisfaction of the Director of Development for the Riparian Management Area (RMA) compensation (No. 7 Road Canal impacts) based on the RMA planting plan submitted under DP 11-566011. The security is to be based on an installation cost estimate prepared by a BCSLA inclusive of materials and labour costs plus a 10% contingency. The cost estimate shall include cost breakdowns for the type, size and number of trees, shrubs, ground covers and growing medium that will form the compensation landscaping.
 - 9.4 Conditions ensuring that no structures or debris will be placed within the compensation area and that, once installed, the compensation landscaping is maintained and will not be abandoned or removed. Conditions are to include submission of monitoring reports by a Qualified Environmental Professional (QEP) for a minimum of five years from the date of the initial satisfactory landscape inspection by the City. The agreement is to include clauses giving the City the rights to enter the RMA compensation areas to repair and maintain the landscaping should the owners fail to do so.
 - 9.5 Submission of a Contract entered into between the applicant and a Qualified Environmental Professional (QEP) for supervision of any on-site works conducted within or adjacent to the environmental compensation areas. The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the QEP to submit a post-construction assessment report to the City for review.
10. ESA No Build 15111 Williams Road: Registration of a "No Build" legal agreement on Title of 15111 Williams Road for Environmentally Sensitive Area (ESA) and Riparian Management Area (RMA)

compensation measures (Savage Road impacts). A Building Permit will not be issued until the following conditions have been addressed to the satisfaction of the Director of Development:

- 10.1 Submission of detailed landscaping plans and detailed installation cost estimate prepared by a Qualified Landscape and or Environmental Professional for the ESA/RMA compensation area to the satisfaction of the Director of Development and generally corresponding to the compensation requirements outlined in the Habitat Balance sheet submitted under DP 11-566011. The plans shall include the type, size and number of trees, shrubs, aquatic vegetation, ground covers and growing medium that will form the compensation landscaping.
- 10.2 Submission of a landscaping security based on the updated ESA/RMA compensation landscaping plan and cost estimates current to the date of submission. Cost estimates are to include materials, labour and monitoring costs plus a 10% contingency.
- 10.3 Survey plan prepared by a BCLS showing the configuration and dimensions of the ESA/RMA compensation area as submitted under DP 11-566011;
- 10.4 Registration on Title of a legal agreement for the conservation and ongoing maintenance of the ESA/RMA compensation area to the satisfaction of the Director of Development. The agreement shall include the accepted detailed landscaping plan including the type, size and number of trees, shrubs, ground covers and growing medium that will form the compensation landscaping. The agreement is to ensure that no structures or debris will be placed within the compensation area and that, once installed and approved by the City, the compensation landscaping is maintained and will not be abandoned or removed. The agreement is also to include submission of monitoring reports by a Qualified Environmental Professional (QEP) for a minimum of five years from the date of the initial satisfactory landscape inspection by the City. The agreement is to include clauses giving the City the rights to enter the Environmental Compensation areas to repair and maintain the landscaping should the owners fail to do so.
- 10.5 Submission of a Contract entered into between the applicant and a Qualified Environmental Professional (QEP) for supervision of any on-site works conducted within or adjacent to the environmental compensation areas and to oversee the construction of the compensation wetlands at 15111 Williams Road. The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the QEP to submit a post-construction assessment report to the City for review.
11. Water Table Monitoring: Submission of a contract, to the satisfaction of the Director of Engineering, for a qualified Environmental Professional to undertake the water table monitoring for the proposed wetland compensation as outlined in the Wetland Feasibility Study and Conceptual Design report by Keystone Environmental dated May 3, 2016.
12. Emergency Access: Registration of a legal agreement on Title of 15111 Williams Road and Richmond Key 1095 providing emergency services to access across both properties.

Prior to Building Permit Issuance, the developer must complete the following requirements:

- 1 Enter into the legal agreements and Servicing Agreements* as outlined in the Engineering Servicing Requirements and the Transportation Requirements sections below.
- 2 Submission of geotechnical report(s) prepared by a professional engineer or geoscientist and experienced in geotechnical engineering verifying that the land may be used safely for the use intended.
- 3 Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
- 4 Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

- 5 Installation of appropriate tree protection fencing around all trees to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.

Engineering Servicing Requirements

Scope: ECOWASTE INDUSTRIES LTD. has applied to the City of Richmond for permission to develop a 169-acre Industrial Logistics Park at 15111 Williams Road and No Access Parcel 1095. A Development Permit is required as the proposed road and bridge infrastructure is adjacent to an Environmentally Sensitive Area, a Riparian Management Area and the Agricultural Land Reserve (ALR).

Ecowaste Industries Ltd. has presented a servicing strategy for the Richmond Industrial Centre Development's proposed bridge, road, stormwater, water and sanitary servicing, dated December, 2015. Generally, the document provides a servicing strategy that can be used as a basis for creating Servicing Agreement drawings. Key issues and other requirements that must be addressed through servicing agreements* are outlined below. Minor issues and currently unknown issues must also be resolved through the servicing agreements.

Since the servicing document was submitted its content has been reviewed on an on-going basis. As such, some of the issues listed here-in may already have been resolved.

Servicing Agreements and Other Agreements

- The Developer is required to:
 1. Prior to the development's first Building Permit issuance for the site, enter into a Servicing Agreement to complete the interim works on Blundell Road. Drawings for the development's entire off-site works (including Savage Road, Francis Road and all private works within statutory right-of-ways for public passage) should be presented for City approval and clearly demarked to show all construction phasing.
 2. Prior to the development's second Building Permit issuance, enter into agreements for the development's proposed stormwater pipe to cross Francis Road, Dyke Road, Lot K and, if necessary, Williams Road and to define property owner management obligations for private infrastructure and drainage discharge between two (2) separate land parcels. Parcel to parcel agreements must be registered at LTO prior to infrastructure construction.
 3. Prior to the development's first Building Permit issuance on land located south of the Francis Road dedication (i.e. 15111 Williams Road), enter into agreements for the development's proposed sanitary forcemain to cross the City's Francis Road dedication and to define property owner management obligations for private infrastructure and sewage discharge between two (2) separate land parcels. Parcel to parcel agreements must be registered at LTO prior to infrastructure construction.
 4. Prior to the development's first Building Permit issuance on land located south of the Francis Road dedication (i.e. 15111 Williams Road), enter into a Servicing Agreement to complete the ultimate works on Francis Road and Savage Road. The City reserves the right to request amendments to these drawings should the form of development vary from that proposed in the Development Permit application, should the City's engineering standards change prior to the Servicing Agreement being signed or if, based on the aforementioned Servicing Agreements construction, there are technical reasons to require such change.
 5. Enter into, depending on the applicant's preference, one or more servicing agreements to complete the Francis Road and Savage Road pre-load works. The timing to enter these agreements may vary depending on the developments construction schedule requirements.
 6. Coordinate pre-load works along Savage Road with pipeline works proposed by the Vancouver Airport Fuel Facilities Corporation to ensure that neither parties work precludes construction of the other and to ensure that ground is adequately pre-loaded prior to the road's ultimate construction.
 7. On all Servicing Agreement (SA) drawings clearly show where land owner maintenance responsibilities end and City maintenance responsibilities begin. As a general rule, the City will not own and maintain infrastructure outside of the existing road dedications.

Water Works

- The Developer is required to:
 8. Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm the development has adequate fire flow for on-site fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage and Building designs.
 9. Design private watermains within "Road A" and "Road B" to meet all applicable standards (Plumbing Code, City Engineering Specs and others as required). Pipe inspections to be made by the City's plumbing inspectors (add notes to drawings).

Storm Sewer Works

- The Developer is required to:
 10. Limit the permanent drainage catchment into the No. 7 Road drainage canal to that of Blundell Road and the north entrances of "Road A" and "Road B".
 11. Limit the temporary drainage catchment into the No. 7 Road drainage canal to that of the development's first building and its adjacent parking lots.
 12. Construct, prior to the construction of subsequent buildings, a permanent drainage system discharging directly into the Fraser River.
 13. In the event that the permanent drainage pipe construction is delayed due to the on-going discussions with Port Metro Vancouver, an on-site stormwater storage system will be considered. An on-site storage system would need to attenuate storm flows so that the maximum peak flow from the first building's drainage catchment is not exceeded.
 14. Locate the development's drainage system on private property (no pipe is permitted to run in a north-south direction within Savage Road) apart from where it crosses Francis Road, Dyke Road, Lot K or other City controlled land.
 15. Assess the storm outfall's potential to erode/impact the Fraser River bank/foreshore present designs to prevent any identified impacts.
 16. Provide road drainage along Savage Road and Francis Road, no private tie-in permitted.
 17. Remove the storm overflow to Francis Road.

Sanitary Sewer Works:

- The Developer is required to:
 18. No additional items identified at this time.

Frontage Improvements and General Items:

- The Developer is required to:
 19. Own and maintain all sidewalks, bike paths, curbs, gutters, asphalt, streetlights, utilities and other similar infrastructure located above areas of land that are known or suspected to be used for landfill operation. This includes infrastructure located within the Ecowaste property fronting Blundell Road, with the exception of a small strip of asphalt (approx. 300 mm wide) between the concrete gutter and the property line, for which a Statutory Right-of-Way (SRW) agreement will be required.
 20. Prior to the construction of any building south of Francis Road, purchase and dedicate approximately 2,000 m² of land to complete the 20 m wide Savage Road dedication (immediately north of Williams Road), including obtaining all necessary approvals from the City and Agricultural Land Commission.
 21. Revise the Savage Road design to minimize the use of retaining walls on City dedication.
 22. Provide a signed and sealed geotechnical letter reviewing the revised retaining wall and embankment designs.
 23. Select plants for any steep sections of land within road dedication to have minimum maintenance requirements.
 24. Provide a detailed ultimate bridge layout (4 lanes, but not a full design) within the Servicing Agreement drawings to ensure that the ultimate road and bridge layout is conceptually acceptable. This should include any utilities that may be located beneath it.

25. Register all SRWs (including discharge and replacement or modification SRWs) prior to Servicing Agreement drawing approval.
26. Design the gravel section of Blundell Road to avoid erosion by storm events.
27. Add safety barriers along Savage Road wherever a safety issues requires them.
28. Install pre-duct for future hydro, telephone and cable utilities along all road frontages.
29. Locate all above ground utility cabinets and kiosks required to service the proposed development within the development site (see list below for examples). Please coordinate with the respective private utility companies and the project's lighting and traffic signal consultants to confirm the right-of-way requirements and the locations for the above ground structures. If a private utility company does not require an above ground structure, that company shall confirm this via a letter to be submitted to the City. The following are examples of SRWs that shall be shown in the functional plan and registered prior to Servicing Agreement design approval:
 - BC Hydro Vista - Confirm SRW dimensions with BC Hydro.
 - BC Hydro PMT – Approximately 4 m wide x 5 m (deep) – Confirm SRW dimensions with BC Hydro.
 - BC Hydro LPT – Approximately 3.5 m wide x 3.5 m (deep) – Confirm SRW dimensions with BC Hydro.
 - Street light kiosk – Approximately 2 m wide x 1.5 m (deep)
 - Traffic signal controller cabinet – Approximately 3.2 m wide x 1.8 m (deep)
 - Traffic signal UPS cabinet – Approximately 1.8 m wide x 2.2 m (deep)
 - Shaw cable kiosk – Approximately 1 m wide x 1 m (deep) – show possible location in functional plan. Confirm SRW dimensions with Shaw.
 - Telus FDH cabinet - Approximately 1.1 m wide x 1 m (deep) – show possible location in functional plan. Confirm SRW dimensions with Telus.
30. Provide other frontage improvements as per Transportation's requirements. Improvements shall be built to the ultimate condition wherever possible.
31. Provide, prior to first Servicing Agreement design submission, a geotechnical assessment of preload and soil preparation impacts on the existing utilities fronting or within the development site, proposed utility installations, and provide mitigation recommendations. The mitigation recommendations shall be incorporated into the first Servicing Agreement design submission or if necessary prior to pre-load.
32. Enter into additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

Transportation Requirements

1. Land dedication and PROP SROW:

Applicant responsible for dedicating land and providing the necessary Public Right-of-Passage Statutory Right-of-Way (PROP SROW) to accommodate the road/frontage works as noted below in item 2 along each of the development frontages. In general, the following list summarizes the total widths required to accommodate the road cross-sections; however, the exact width of the dedication and PROP SROW is subject to the review and approval of the detailed Servicing Agreement (SA) design of which would be based on the area necessary to accommodate the ultimate standards for both roads and intersections.

Dedications

- a. Savage Road: 20.0 m (as dedication)
- b. Francis Road: 20.0 m (as dedication)

PROP SROW*

- c. Blundell Road: 24.4 m (composed of a 1.10m wide strip of land along the south side as PROP SROW*, and the existing road right-of-way as dedication ranging between 19.12 m and 20.98 m in width, plus the northern edge where a strip of PROP SROW* ranging between 2.32 m and 4.18 m to be provided for the off-road pathway, proposed concrete curb and gutter and a strip of asphalt. The total dedication and PROP SROW* should be no less than 24.4 m).
- d. "Road B" (private road): 20.0 m (as PROP SROW*)
- e. "Road A" (private road): 20.0 m (as PROP SROW*)
- f. Minimum 4 m x 4 m corner cuts (as PROP SROW*) on the corners of intersections where two (2) roads intersect. The corner cut should be measured from the new property lines and/or new PROP SROW's*.

*All PROP SROW's are to be maintained by the owner.

2. Road Cross-Sections:

Applicant responsible for the design and construction of the frontage works as noted in the Servicing Strategy dated December, 2015, submitted by the applicant. The document provides a servicing strategy that can be used as the basis to define the scope of the road and/or frontage improvements on a conceptual basis. The exact scope and extent of the road improvements would be reviewed and refined as part of the detailed Servicing Agreement process which will aim to achieve the following general cross-sections:

- a. Blundell Road Bridge over No. 7 Road right-of-way be constructed as part of the development (from north to south):
 - 0.3 m wide for handrail
 - 3.2 m wide paved shared pedestrian/cyclist path
 - 0.39 m wide concrete barriers with railing
 - 8.3 m wide asphalt pavement for vehicular traffic
 - 1.045 m wide street lighting & concrete median barriers

The interim bridge should be designed to allow for the future widening to the south to accommodate the following ultimate cross-section that would be in addition to the interim cross-section noted above (from north to south):

- 0.445 m wide for street lighting/median barriers
 - 8.3 m wide asphalt pavement for vehicular traffic
 - 0.39 m wide concrete barriers with railing
 - 1.7 m wide concrete sidewalk path
 - 0.3 m wide for handrail
- b. Blundell Road (from the proposed Blundell Road bridge to just west of "Road B") to be constructed as part of the development (from north to south):
 - 2.5 m wide paved shared pedestrian/cyclist path
 - 0.15 m wide curb/gutter
 - 8.3 m wide asphalt pavement for vehicular traffic (11.3 m at intersections with the additional width for left-turn bays)
 - 0.15 m wide curb/gutter
 - street lighting placed at 1.7 m south of the curb/gutter
 - 1.5 m wide sidewalk along the south side at the ultimate location, between "Road B" and "Road A".

Note that the ultimate cross-section for Blundell Road would consist of the above, and a “mirror image” of the above cross-section on the south side with the exception that the 2.5 m wide pathway that would be replaced with a 1.5 m wide concrete sidewalk.

- c. Savage Road, from Williams Road to Francis Road to be constructed as part of the development (from east to west):
 - 1.0 m wide transition/tie-in
 - 4.0 m wide shared pedestrian/cycling path
 - 1.5 m wide treed boulevard & street lighting
 - 0.15 m wide curb/gutter
 - 10.0 m wide asphalt for vehicular travel
 - 0.15 m wide curb/gutter
 - remaining width for buffer
- d. Francis Road, from Savage Road to “Road B” to be constructed as part of the development (from south to north):
 - 0.85 m wide transition/tie-in
 - 2.5 m wide paved pedestrian/cycling path
 - 1.5 m wide treed boulevard & street lighting
 - 0.15 m wide curb/gutter
 - 10.0 m wide asphalt for vehicular travel
 - 0.15 m wide curb/gutter
 - 1.5 m wide treed boulevard & street lighting
 - 2.5 m wide paved pedestrian/cycling path
 - 0.85 m wide transition/tie-in
- e. “Road B” (private road), from Francis Road to Blundell Road to be constructed as part of the development (from east to west):
 - 0.85 m wide transition/tie-in
 - 2.5 m wide paved pedestrian/cycling path
 - 1.5 m wide treed boulevard & street lighting
 - 0.15 m wide curb/gutter
 - 10.0 m wide asphalt for vehicular travel
 - 0.15 m wide curb/gutter
 - 1.5 m wide treed boulevard & street lighting
 - 2.5 m wide paved pedestrian/cycling path
 - 0.85 m wide transition/tie-in
- f. “Road A” (private road), from “Road B” to Blundell Road to be constructed as part of the development (from east to west):
 - 0.85 m wide transition/tie-in
 - 2.5 m wide paved pedestrian/cycling path
 - 1.5 m wide treed boulevard & street lighting
 - 0.15 m wide curb/gutter
 - 10.0 m wide asphalt for vehicular travel
 - 0.15 m wide curb/gutter
 - 1.5 m wide treed boulevard & street lighting
 - 2.5 m wide paved pedestrian/cycling path
 - 0.85 m wide transition/tie-in

3. Special Crosswalk:

Applicant to design and construct a special crosswalk (with flashing beacons, and downward lighting) on Blundell Road at "Road A" (west leg).

4. Vehicle Parking & Loading and Bicycle Parking:

Vehicle parking and loading and bicycle parking to be provided as per requirements noted in Zoning Bylaw Section 7.0 with the exception for the following variance if approved by Council:

Reduce the minimum number of parking spaces required to 0.56 spaces per 100 m² of gross leasable floor area for those portions of the building used for freight forwarding services or warehouse storage services.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner, but also as covenants pursuant to Section 219 of the Land Title Act.
All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.
The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.
- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contains prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed

Date



Development Application Data Sheet

Development Applications Department

DP 11-566011

Attachment 2

Address: 15111 Williams Road and Richmond Key 1095

Applicant: Ecowaste Industries Ltd. Owner: same

Planning Area(s): Fraser Lands

	Existing		Proposed
Site Area:	65.22 ha (161.14 acres)		Same (possible minor road dedications via Servicing Agreement.)
Land Uses:	Industrial – active landfill north of Francis Road and sorting and processing construction waste south of Francis Road		Industrial – closed landfill with light industrial logistics park
OCP Designation:	Industrial		Same
Zoning:	Industrial (I)		Same
	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	1.0 FAR	1.0 FAR max	none permitted
Lot Coverage:	Max. 60%	60%	None
Setback – Frontage to Public Roads	Min. 3.0 m	13 m or more	None
Setback – Exterior Side Yard to Public Roads	Min. 0.0 m	3 m	None
Setback – Frontage to Internal Private Roads	N/A	3 m or more	None
Setback – Exterior Side Yard Internal Private Roads	N/A	3 m or more	None
Height (m):	Max. 12 m	13 m as measured from slab finished floor	Variance
Lot Size:	Richmond Key 1095): 53.35 ha (131.8 acres - 15111 Williams Road: 11.87 ha (29.3 acres)	Same (possible minor road dedications via Servicing Agreement.)	None
Off-street Parking Spaces – Regular/Commercial:	TBD at BP stage	TBD at BP stage 0.56 spaces per 100 m ² for freight forwarding services or warehouse storage services	Variance for freight forwarding services or warehouse storage services
Off-street Parking Spaces – Accessible:	TBD at BP stage	TBD at BP stage	None
Bicycle Parking Spaces: Class 1 and Class 2	TBD at BP stage	TBD at BP stage	None



City of Richmond

Development Permit

No. DP 11-566011

To the Holder: ECOWASTE INDUSTRIES LTD.
Property Address: 15111 WILLIAMS ROAD AND RICHMOND KEY 1095
Address: C/O MR. ANGUS BEATTIE
5TH FLOOR, 595 BURNARD STREET
VANCOUVER, BC

1. This Development Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Permit applies to and only to those lands shown cross-hatched on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. The "Richmond Zoning Bylaw 8500" is hereby varied to:
 - a) Increase the maximum building height from 12.0 m to 13.0 m and that the building height is to be measured from the finished foundation slab and further to apply the Geological Survey of Canada (GSC) datum shown on the phase block plan attached as "Schedule B" as the maximum elevation limits for the tallest point on each building, and;
 - b) Reduce the minimum number of parking spaces required to 0.56 spaces per 100 m² of gross leasable floor area for those portions of the building used for freight forwarding services or warehouse storage services.
4. Subject to Section 692 of the Local Government Act, R.S.B.C.: buildings and structures; off-street parking and loading facilities; roads and parking areas; and landscaping and screening shall be constructed generally in accordance with Plans #1 to #17 attached hereto.
5. Sanitary sewers, water, drainage, highways, street lighting, underground wiring, and sidewalks, shall be provided as required.
6. If the Holder does not commence the construction permitted by this Permit within 24 months of the date of this Permit, this Permit shall lapse and the security shall be returned in full.

Development Permit

No. DP 11-566011

To the Holder: ECOWASTE INDUSTRIES LTD.

Property Address: 15111 WILLIAMS ROAD AND RICHMOND KEY 1095

Address: C/O MR. ANGUS BEATTIE
5TH FLOOR, 595 BURNARD STREET
VANCOUVER, BC

7. The land described herein shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.

This Permit is not a Building Permit.

AUTHORIZING RESOLUTION NO.
DAY OF , .

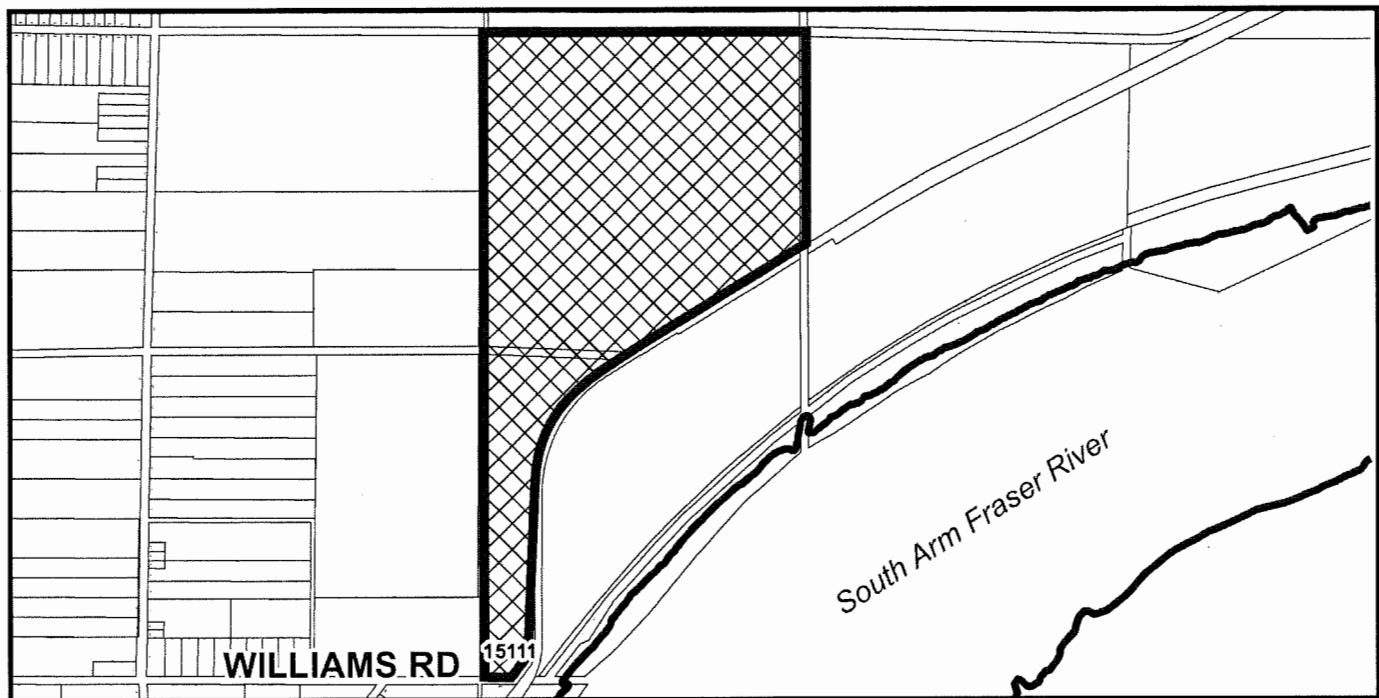
ISSUED BY THE COUNCIL THE

DELIVERED THIS DAY OF , .

MAYOR



City of
Richmond

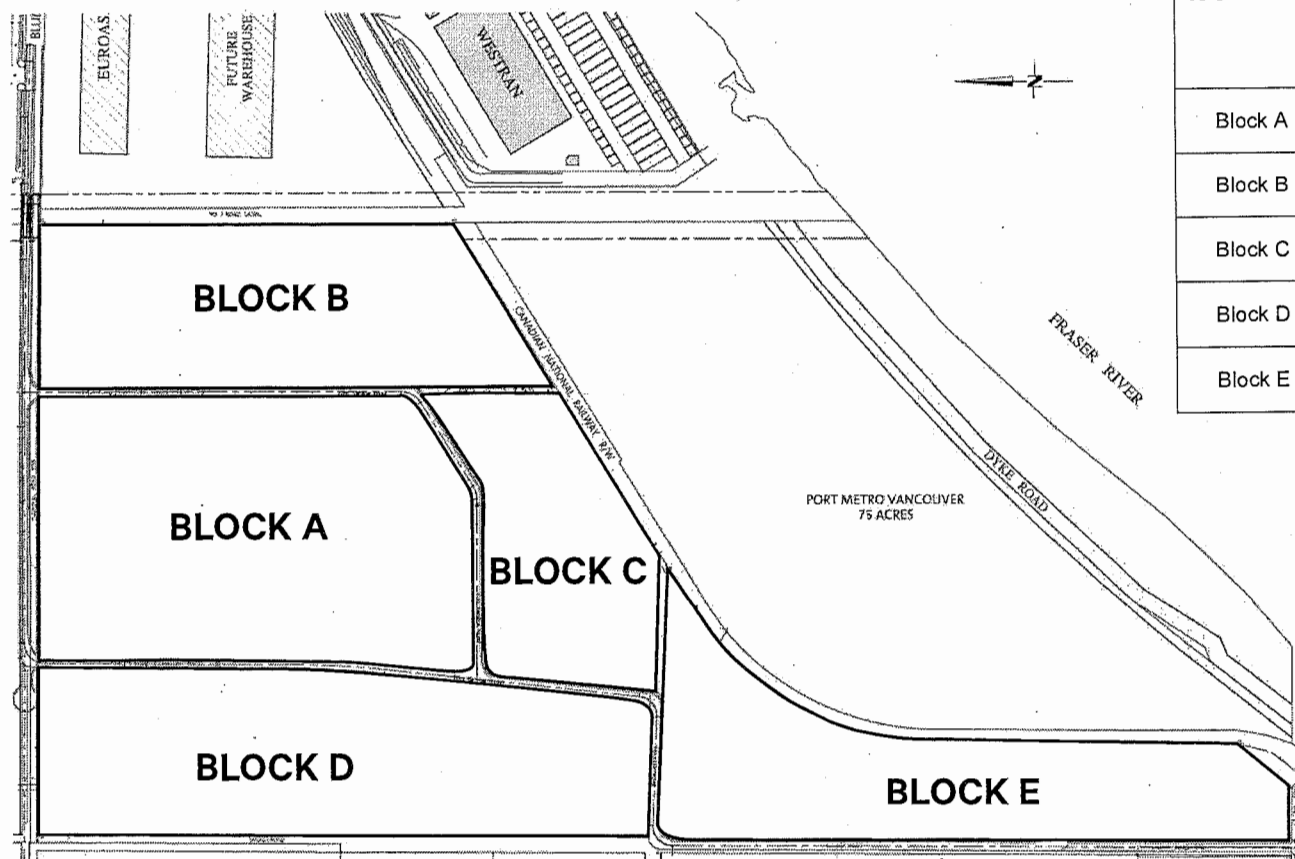


DP 11-566011
SCHEDULE "A"

Original Date: 06/20/16

Revision Date:

Note: Dimensions are in METRES



Location	Approximate Finished Grade	Maximum Building Height
Block A	19 m GSC	The lesser of 13 m above slab or 32 m GSC
Block B	18.2 m GSC	The lesser of 13 m above slab or 31.2 m GSC
Block C	18.2 m GSC	The lesser of 13 m above slab or 31.2 m GSC
Block D	18.2 m GSC	The lesser of 13 m above slab or 31.2 m GSC
Block E	6.7 m GSC	The lesser of 13 m above slab or 19.7 m GSC

BUILDING HEIGHT VARIANCE

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



Richmond
Industrial
Centre

SCHEDULE B

Richmond Industrial Centre Development

JUL 13 2016

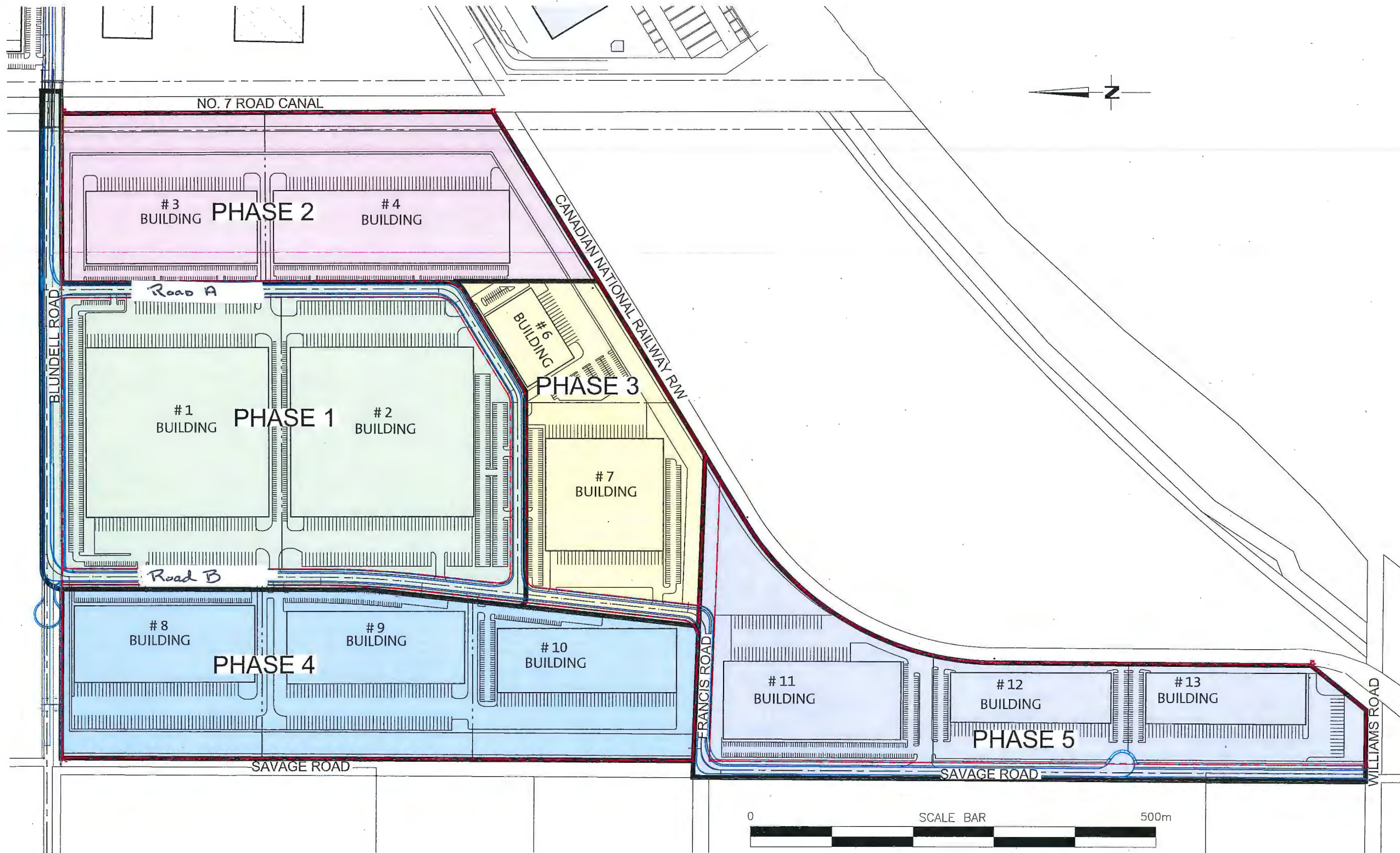
RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

FILE NO. DP 11-566011

DP 11-566011



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Plan #1

DEVELOPMENT PHASING PLAN

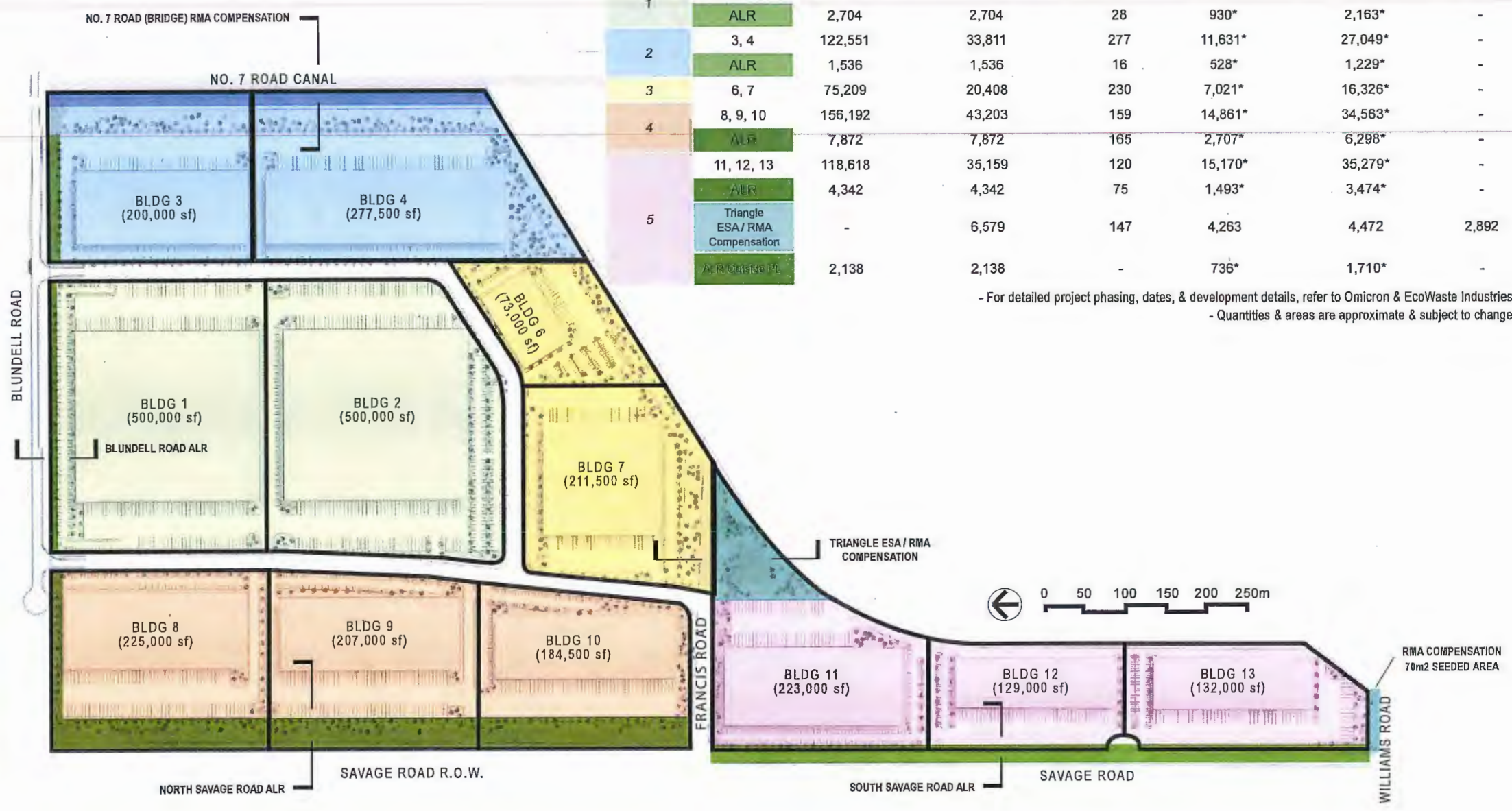
RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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DP 11-566011

Planting Strategy Plan



PLANTING PER PHASE							
Phase	Building # / Area	Lot Area (m2)	Total Landscape Area (m2)	Trees (ea)	20%* Shrubs (ea)	80%* Seed Areas (m2)	Wetland Plants
No. 7 RD / BRIDGE	No. 7 Canal RMA	-	1,598 planted / 2,133 invasive mgmt	-	3,733	3,731	-
1	1, 2	179,536	15,778	237	5,427*	12,623*	-
	ALR	2,704	2,704	28	930*	2,163*	-
2	3, 4	122,551	33,811	277	11,631*	27,049*	-
	ALR	1,536	1,536	16	528*	1,229*	-
3	6, 7	75,209	20,408	230	7,021*	16,326*	-
4	8, 9, 10	156,192	43,203	159	14,861*	34,563*	-
	ALR	7,872	7,872	165	2,707*	6,298*	-
5	11, 12, 13	118,618	35,159	120	15,170*	35,279*	-
	ALR	4,342	4,342	75	1,493*	3,474*	-
	Triangle ESA / RMA Compensation	-	6,579	147	4,263	4,472	2,892
	ALR Compensation	2,138	2,138	-	736*	1,710*	-

- For detailed project phasing, dates, & development details, refer to Omicron & EcoWaste Industries.
- Quantities & areas are approximate & subject to change.

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Plan #2

LANDSCAPE PLAN AND PLANTING OVERVIEW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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Proposed Plant Lists - Site & ALR Buffer

REPRESENTATIVE TREE LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	AMELANCHIER ALNIFOLIA	SERVICEBERRY	MIXED 7, 10 POTS
2	BETULA NIGRA	RIVER BIRCH	MIXED 7, 10 POTS
3	CRATAEGUS SPP.	HAWTHORN	MIXED 7, 10 POTS
4	MALUS FUSCA	PACIFIC CRAB APPLE	MIXED 7, 10 POTS
5	PICEA SPP	SPRUCE	MIX 1.2 - 2.5M HT
6	PINUS CONTORTA	SHORE PINE	MIX 1.2 - 2.5M HT
7	PRUNUS EMARGINATA	BITTER CHERRY	MIXED 7, 10 POTS
8	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	MIX 1.2 - 2.5M HT
9	ROBINIA PSEUDOACACIA	BLACK LOCUST	MIX 1.2 - 2.5M HT
10	QUERCUS PALUSTRIS	PIN OAK	MIX 1.2 - 2.5M HT

REPRESENTATIVE SHRUBS, GRASSES & SEED LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK	4" POTS
2	CAREX SPP	SEDGE, VARIOUS	1 POTS
3	FESTUCA SPP	BLUE FESCUE	1 POTS
4	POTENTILLA FRUTICOSA	SHRUBBY CINQUEFOIL	5 POTS
5	PHYSOCARPUS OPULIFOLIUS	NINEBARK	5 POTS
6	RIBES SANGUINEUM	FLOWERING CURRANT	5 POTS
7	ROSA NUTKANA	NOOTKA ROSE	5 POTS
8	RUBUS PARVIFLORUS	SALMONBERRY	5 POTS
9	SALIX HOOKERIANA	HOOKE'S WILLOW	5 POTS
10	SPIREA DOUGLASSII	HARDHACK	5 POTS
11	SYMPHORICARPOS ALBUS	SNOWBERRY	5 POTS
12	NATIVE GRASS AND WILDFLOWER SEED	COASTAL REVEGETATION MIX, SUPPLEMENTED WITH CAMASSIA & ERYTHRONIUM	

Proposed Plant Lists - ESA/RMA Comp.

REPRESENTATIVE TREE LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	*RED ALDER	ALNUS RUBRA	MIX 1.2 - 2.5M HT
2	*BLACK COTTONWOOD	POPULUS BALSAMIFERA OR P. TRICHOCARPA	MIX 1.2 - 2.5M HT
3	BITTER CHERRY	PRUNUS EMARGINATA	MIX 1.2 - 2.5M HT
4	*PACIFIC WILLOW	SALIX LUCIDA SSP. LASIANDRA	5 POTS
5	*SITKA SPRUCE	PICEA SITCHENSIS	MIX 1.2 - 2.5M HT
6	WESTERN RED CEDAR	THUJA PLICATA	MIX 1.2 - 2.5M HT

REPRESENTATIVE SHRUBS & WETLAND PLANTS

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	SASKATOON	AMELANCHIER ALNIFOLIA	5 POTS
2	*RED-OSIER DOGWOOD	CORNUS SERICEA OR C. STOLONIFERA	5 POTS
3	PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	5 POTS
4	*SNOWBERRY	SYMPHORICARPOS ALBUS	5 POTS
5	*THIMBLEBERRY	RUBUS PARVIFLORUS	5 POTS
6	*SALMONBERRY	RUBUS SPECTABILIS	5 POTS
7	HOOKE'S WILLOW	SALIX HOOKERIANA	5 POTS
8	*RED ELDERBERRY	SAMBUCUS RACEMOSA VAR. ARBORESCENS	5 POTS
9	CATTAIL	TYPHA LATIFOLIA	1 POTS
10	SLOUGH SEDGE	CAREX LYNGBYEI	1 POTS
11	*BEAKED SEDGE	CAREX ROSTRATA	1 POTS
12	COMMON RUSH	JUNCUS EFFUSUS	1 POTS
13	HARDSTEM BULRUSH	SCIRPUS LACUSTRIS	1 POTS

Note: 50% of plants selected should be from those identified with an (*) as per the City of Richmond's Criteria for the Protection of Environmentally Sensitive Areas.

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Plan #3

GENERAL SITE PLANTING LIST

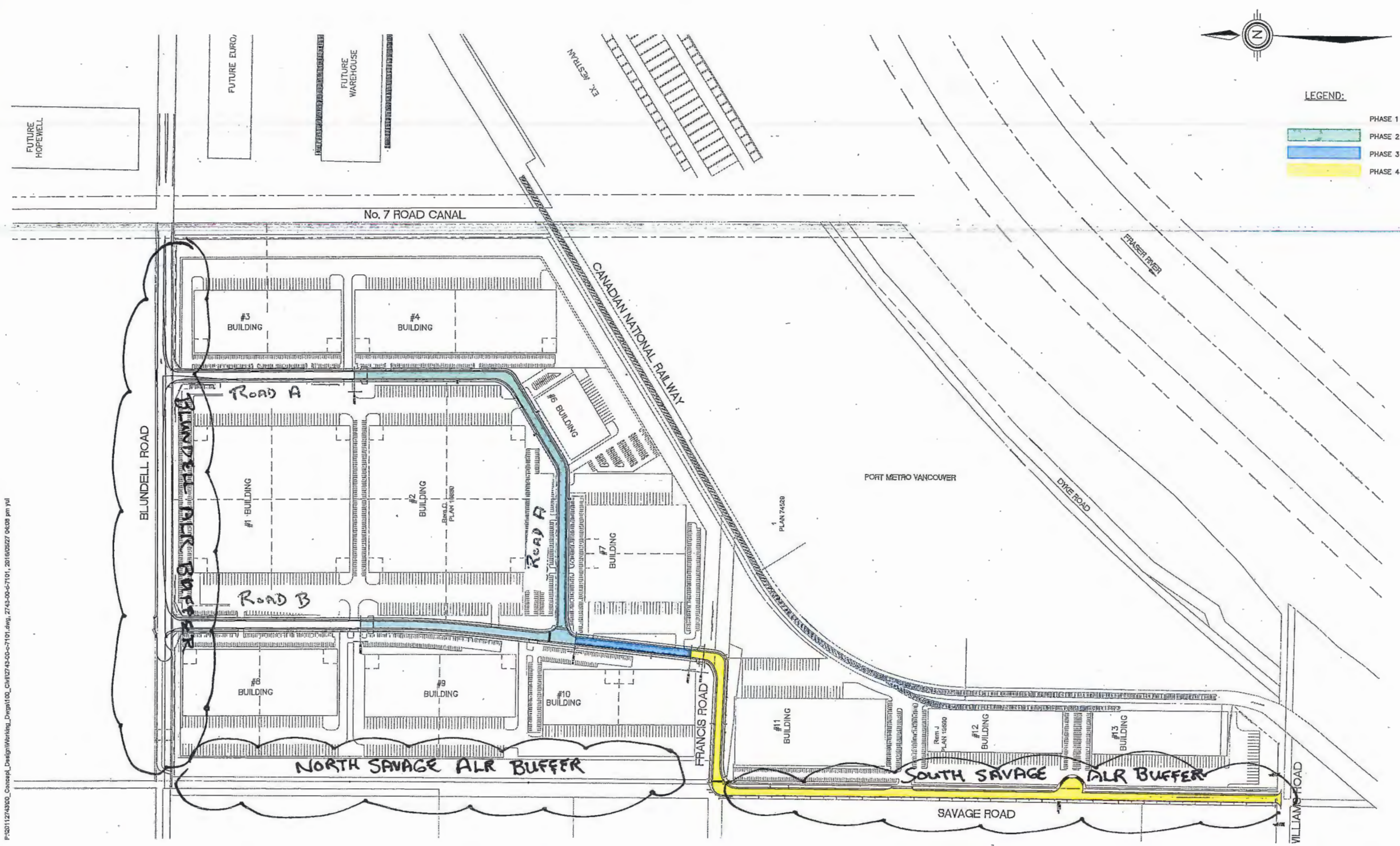
RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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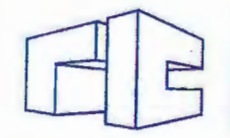
DP 11-566011

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ALR BUFFER LOCATIONS

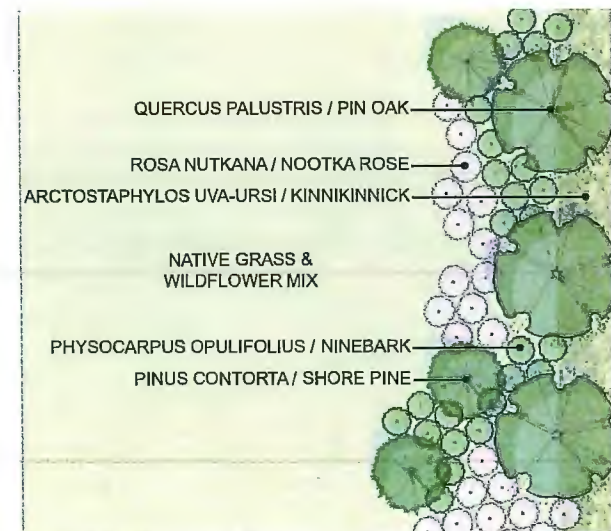
RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



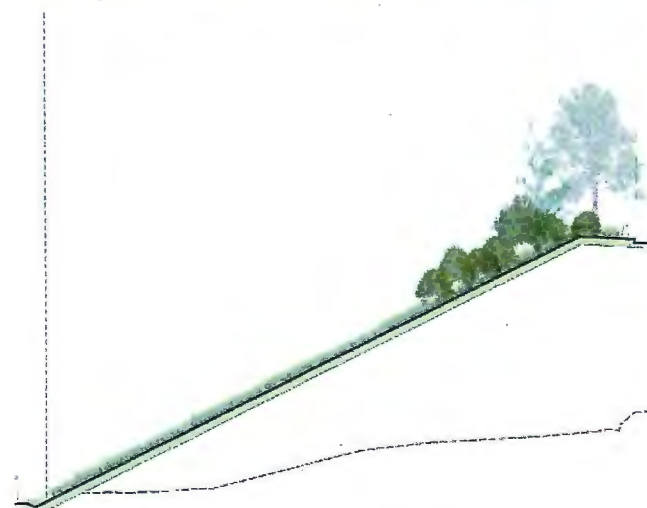
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DP 11-566011

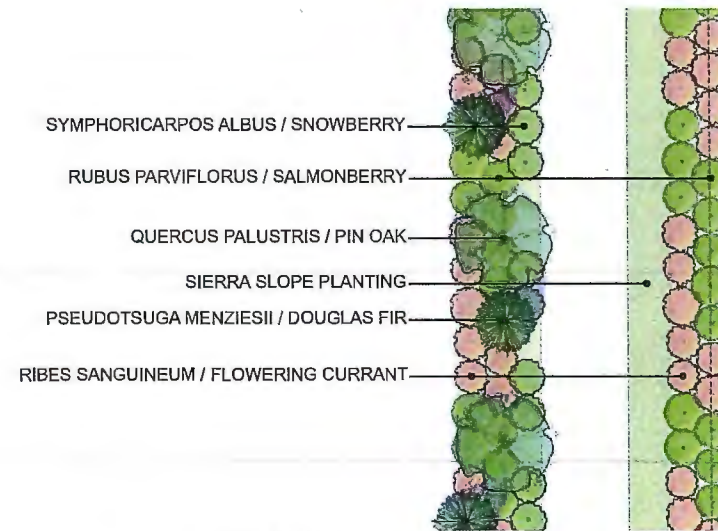
Plan #14a
JUL 13 2016



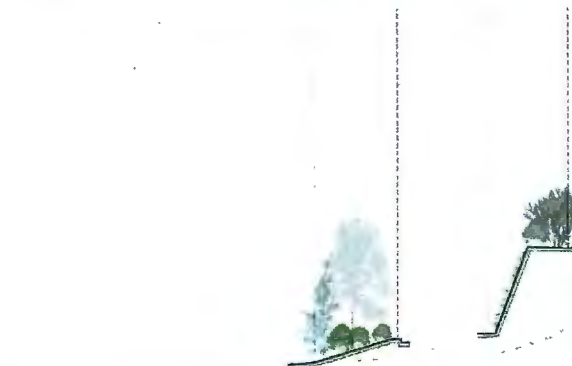
NORTH SAVAGE RD - PARTIAL ALR PLAN



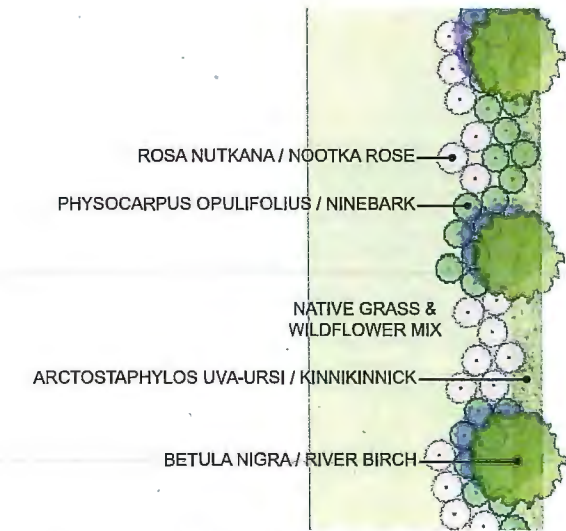
NORTH SAVAGE RD - PARTIAL ALR SECTION



SOUTH SAVAGE RD - PARTIAL ALR PLANS



SOUTH SAVAGE RD - PARTIAL ALR SECTIONS



BLUNDELL RD - PARTIAL ALR PLAN



BLUNDELL RD - PARTIAL ALR SECTION

DESIGN INTENT:

THE LANDSCAPE TOPOGRAPHIES OF THE PROPOSED LANDFILL ELEVATIONS ALONG THE ALR CORRIDORS, ACT AS A PHYSICAL & VISUAL BUFFER. IN ADDITION, SCREENING SHRUBS & TREES WILL ALLEVIATE LIGHT SPILL OVER FROM ADJACENT PARKING LOTS. THE PROPOSED PLANT PALETTE IS INSPIRED BY THE SCALE, TEXTURES & HABITAT OF THE REGIONAL LANDSCAPES. THE PLANTING IS INTENDED TO BE SIMPLE & A REPRESENTATION OF THE RURAL GRASSLAND COMMUNITIES & FRASER RIVER ESTUARY, WITH CLUSTERED GROUPINGS OF TREED THICKETS REPRESENTATIVE OF THE AGRICULTURAL HEDGEROWS. RATHER THAN DESIGN A HIGHLY MANICURED, ORNAMENTAL LANDSCAPE THAT REQUIRES IRRIGATION, FERTILIZERS & BURDENS RESOURCES, THE DEVELOPMENT PROPOSES A STRATEGY OF PREDOMINANTLY NATIVE PLANT COMMUNITIES TO MIMIC THE CHARACTER & HABITAT OF THE TRADITIONAL SITE ECOLOGY. THIS DENSITY HAS BEEN CHOSEN TO ALIGN WITH INTENSIVE LANDSCAPE STRATEGIES & OVERALL CHARACTER OF THE DEVELOPMENT & SCREEN BUILDINGS WHERE APPROPRIATE. TREE SPECIES ADD TO THE OVERALL BIODIVERSITY OF THE INDUSTRIAL PARK & WHERE APPLICABLE, ASSIST IN MITIGATING THE HEAT ISLAND EFFECT.

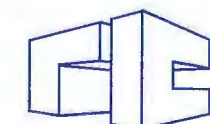
NOTE:

THE ABOVE PLANS ILLUSTRATES PARTIAL AREAS ALONG DESIGNATED, ALR CORRIDORS. FULL PLANT LISTS & QUANTITIES TO BE FURTHER DEVELOPED DURING DETAILED DESIGN.

ALR BUFFER SECTION, PLAN & PLANTING LIST

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

FILE NO. DP 11-566011

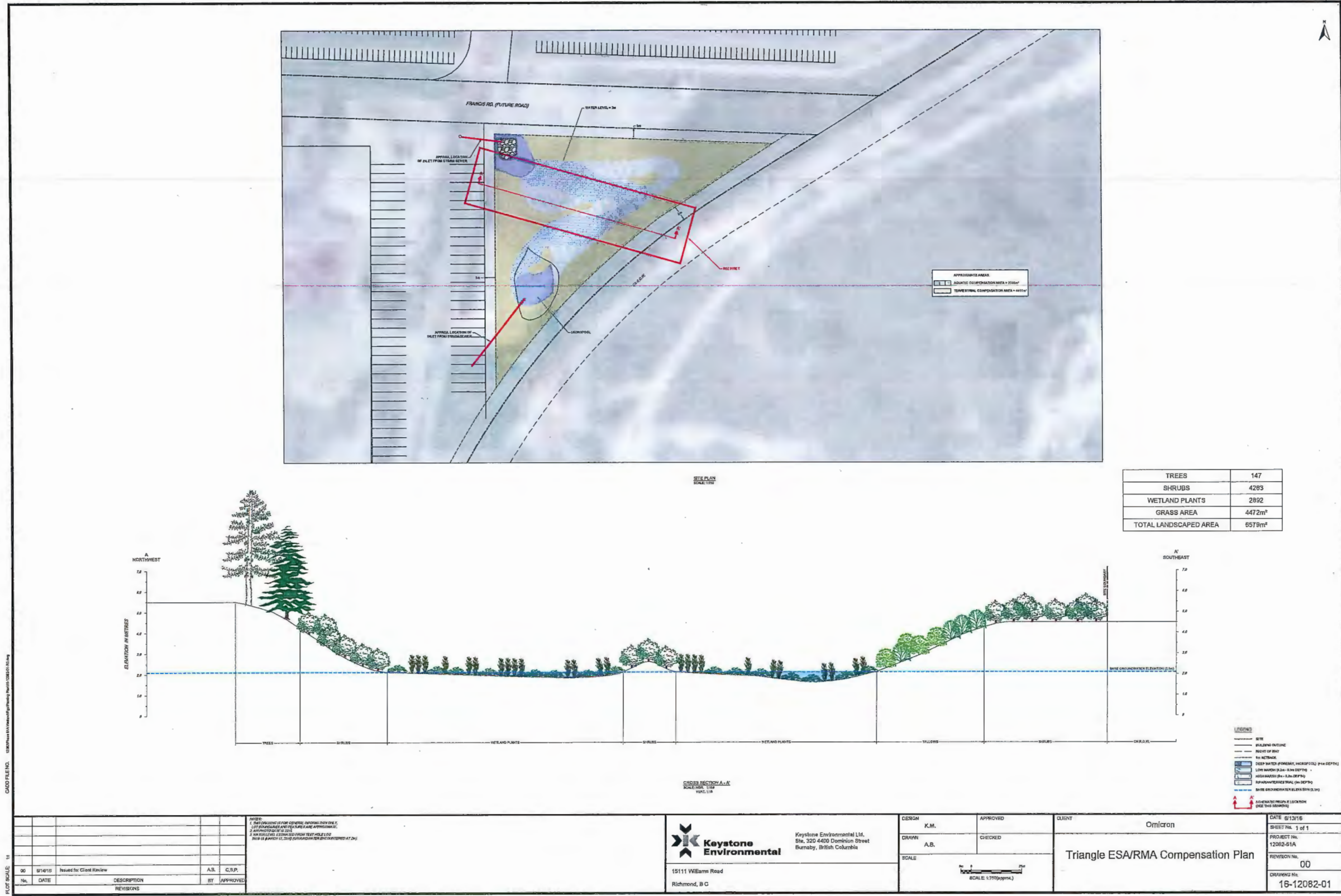


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Plan #4b



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Plan #5

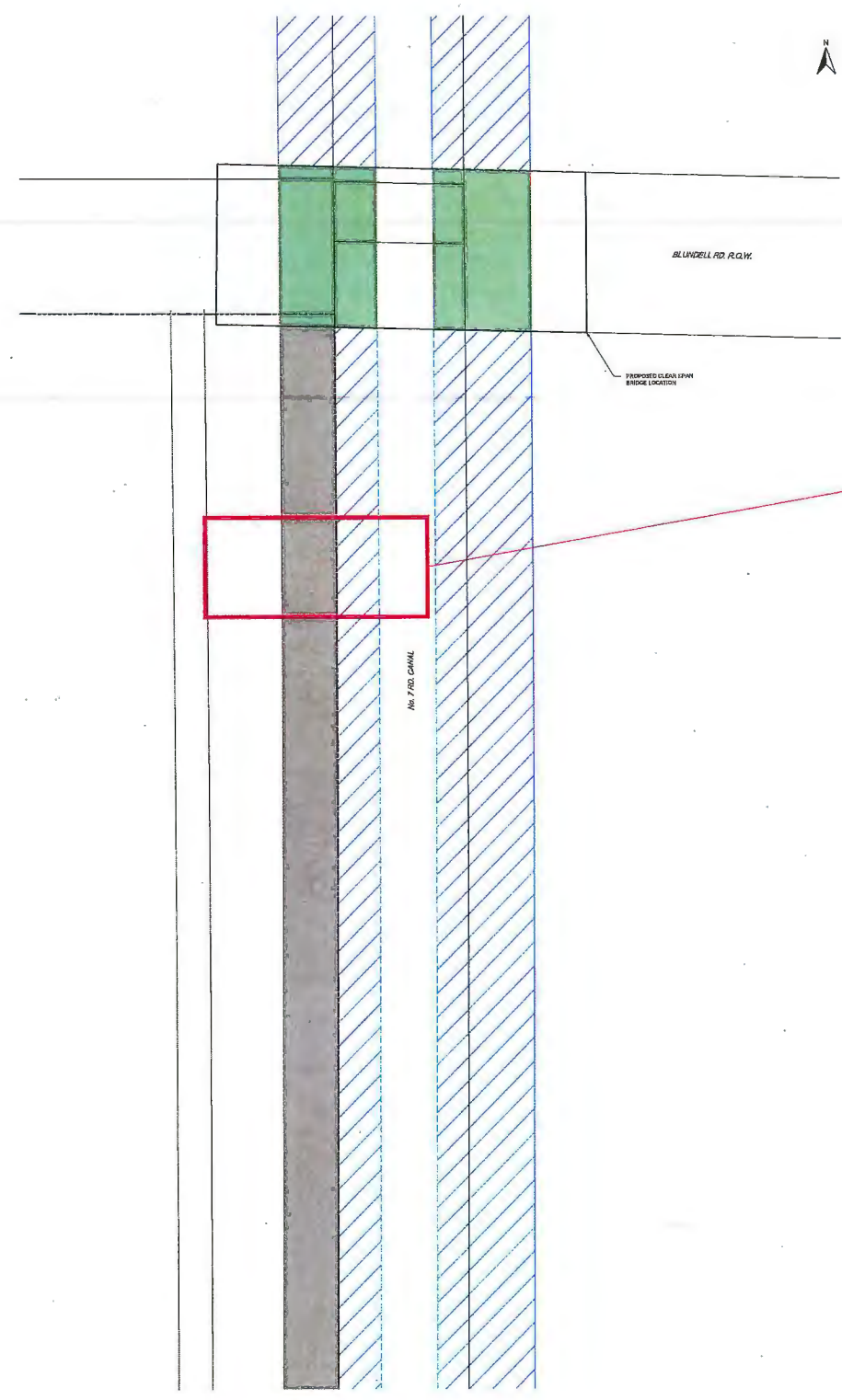
TRIANGLE ESA / RMA COMPENSATION SECTION, PLAN & PLANTING LIST

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



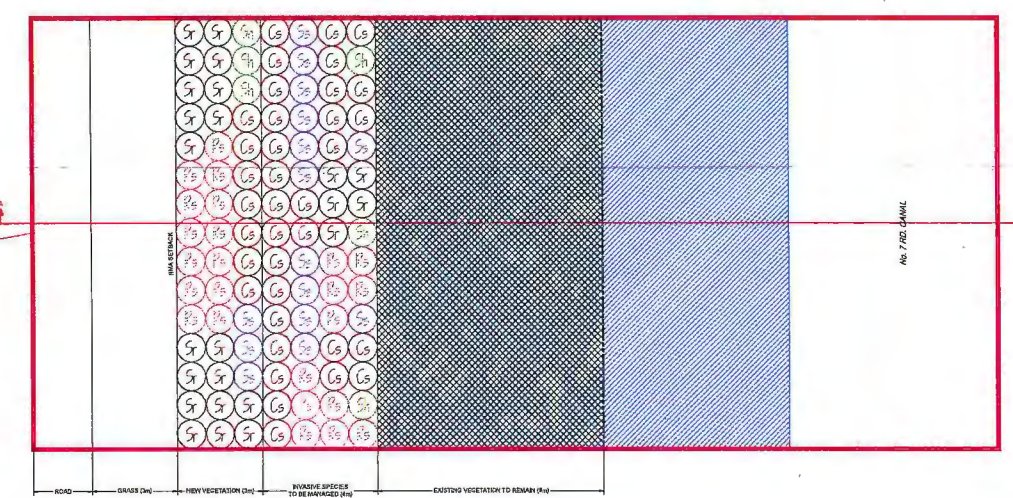
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NP 11-566011

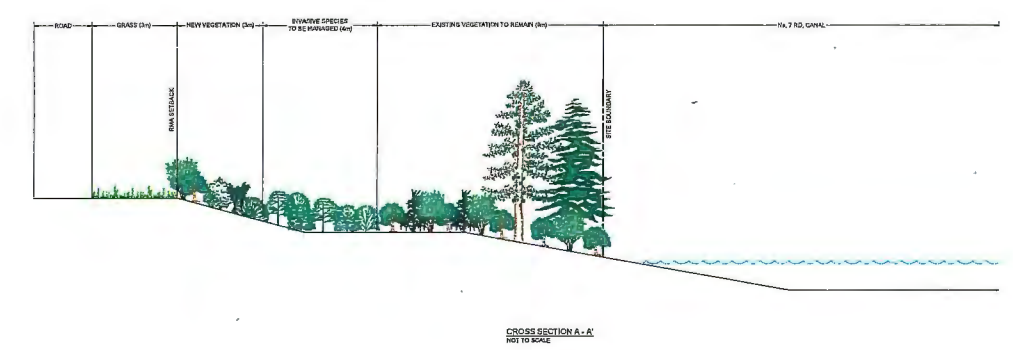


SHRUBS				
SYMBOL	COMMON NAME	LATIN NAME	COUNT	SPECIFICATIONS
①	Red-Start	Correa sericea	1300	no. 1 pot, densely branched, well established
②	Stamens	Ribes speciosum	800	no. 1 pot, densely branched, well established
③	Wood's Yellow	Salix lasiolepis	250	no. 1 pot, densely branched, well established
④	Slack Yellow	Salix glauca	320	no. 1 pot, densely branched, well established
⑤	Red Shrub	Correa sericea	800	no. 1 pot, densely branched, well established
TOTAL			3320	

NOTE:
PLANTING DENSITY WILL BE DETERMINED
FOLLOWING DRAINAGE DESIGN.



INSET
SCALE: 1:100



SCALE: 1:100 (approx.)

- LEGEND
- ① Red-Start
 - ② Stamens
 - ③ Wood's Yellow
 - ④ Slack Yellow
 - ⑤ Red Shrub
 - ⑥
 - ⑦
 - ⑧
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NO 7 RD CANAL RMA COMPENSATION SECTION, PLAN & PLANTING LIST

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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JUL 13 2016
Plan #6

Richmond Industrial Centre Habitat Balance Sheet and Proposed Compensation

Site / Photo Number	Habitat Type	Lot 1101 (Ecowaste Property)	Lot 1123 (Neighbouring Property)	Road ROWs	Total	Compensation Ratio (Impact to Replacement)	Required Compensation Area	Compensated Like Habitat for Like Habitat	Compensated in Same Ecological Unit	
Impacted ESA / RMA Requiring Compensation (m ²)										
1	ESA	Freshwater Aquatic	-	480	Savage Rd: 1,600	2,080	2:1	1,040	Yes	No [†]
		Riparian Terrestrial	-	2,164	Savage Rd: 205	2,369	2:1	1,185	Yes	No [†]
2a	RMA	Freshwater Aquatic	-	-	Savage / Francis Rd: 105	147	2:1	74	Yes	No [†]
3a					Williams Rd: 42					
2b		Riparian Terrestrial	-	-	Savage / Francis Rd: 101	142	2:1	71	Yes	No [†]
3b					Williams Rd: 41					
4	ESA	Storm Water Outfall - Brackish Aquatic	-	-	Williams Rd: 75	75	2:1	38	No*	No [†]
5	RMA	No.7 Canal Bridge - Riparian Terrestrial	-	-	Blundell Rd: 732	732	1:1.5	1,098	Yes	Yes
Non-Impacted Areas to be Removed from ESA (m ²)										
6	ESA	Riparian Terrestrial	6,688	54	Savage / Francis Rd: 5,566	12,308	-	-	-	-
Required Compensation Sub-Total								3,506	-	-
+ Additional 25% for Net Benefit / Local Values								4,383	-	-
Total Required Aquatic Compensation								1,440	-	-
Total Required Terrestrial Compensation								2,943	-	-

Proposed Habitat Compensation (m ²)							
Site / Photo Number	Location	Compensation Habitat Type	Impacted Habitat Type / Location	Compensation Area	Total Compensation Area	Compensated Like Habitat for Like Habitat	Compensated in Same Ecological Unit
7	Ecowaste "Triangle Lot" Constructed Wetland	Freshwater Aquatic	ESA Lot 1123 and Road ROWs	1,040	1,588	Yes	No [†]
			RMA Road ROWs	74		Yes	No [†]
			ESA Storm Water Outfall	38		No*	No [†]
			ESA Additional Net Benefit	436		-	-
		Riparian Terrestrial	ESA Lot 1123 and Road ROWs	1,185	3,230	Yes	No [†]
			RMA Road ROWs	71		Yes	No [†]
			ESA Additional Net Benefit	1,974		-	-
8	Williams Road Entrance Culvert Removal & Watercourse Restoration	Freshwater Aquatic	RMA Additional Net Benefit	32	32	-	-
		Riparian Terrestrial	RMA Additional Net Benefit	70	70	-	-
9	No. 7 Road Canal Riparian Restoration	Riparian Terrestrial	RMA No. 7 Road Canal ROWs	1,098	3,731	Yes	Yes
			RMA Additional Net Benefit	2,633		-	-
Total Proposed Aquatic Compensation					1,620	-	-
Total Proposed Terrestrial Compensation					7,031	-	-
Aquatic Net Benefit (1,620 – 1,440)					180	-	-
Terrestrial Net Benefit (7,031 – 2,943)					4,088	-	-

* Brackish intertidal aquatic impacts from the storm water outfall will be compensated as part of the upland constructed wetland (unlike habitat), based on the limited area of impacts and limited value an isolated brackish compensation area would provide.

† Compensation habitat will not be located in the same contiguous ecological unit based on the inability to establish compensation areas on the Ecowaste property that maintain direct connectivity to impacted areas beyond the property boundaries. Providing compensation habitat in a concentrated area at >25% of the replacement ration is considered to represent a no net loss of habitat.

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Plan #7

HABITAT BALANCE SHEET

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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DP 11-566011

Ecowaste Landscape Data

ITEM	DESCRIPTION	% OF SITE	TOTAL AREA (m ²)
Total Site	Current as per site plan 2015 (site plan development ongoing)	100 %	652,106 m ²
Building Footprint	Includes Total Footprints of Buildings 1 through 13 (site plan development ongoing)	36 %	265,787 m ²
ESA / RMA	No. 7 Road canal habitat compensation area for proposed bridge per Keystone letter dated July 28, 2011.	1.1 %	7,031 m ²
ALR	Agricultural Land Reserve Buffers along Blundell, and North and South Savage Rd, as approved in 2014	2.0 %	18,592 m ²
Richmond Zoning	Based on COR Development Permit Guidelines, 3.0m setback	2.3 %	14,998 m ²
Additional Landscape	Additional site landscape beyond all regulatory requirements	19 %	123,900 m ²
Total Landscape	Total landscape area (not including building footprints, parking, loading, and roadways)	24 %	156,505 m ²

Secondary Objective: Minimum Double the Amount of Required Landscaping Required in the Zoning Bylaw

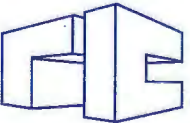
ITEM	METHOD	TARGET	PURSUED
1. Rooftop Parking	A) Parking on the roof and equivalent area of intensive landscaping at grade	50 Points	Not Pursued
2. Enhanced landscaping by anyone or combination of a) to e) methods	A) Area is used for local food production, outdoor amenity space, and/or an environmentally sensitive area	50 Points	30 Points
	B) Vertical landscaping on at least 50% of the length of walls visible from any highway, public trail, or natural watercourse	30 Points	20 Points
	C) Tree canopy in the staff and visitor parking area to provide 50% canopy cover in 10 years		
	D) Other methods		
	E) Intensive landscape including native species in the rainwater and detention system, bioswale, or other methods for runoff control	15 Points	15 Points
		Req'd Points = 30	65 Points

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Plan #8

GREEN ROOF BYLAW VARIANCE OVERVIEW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

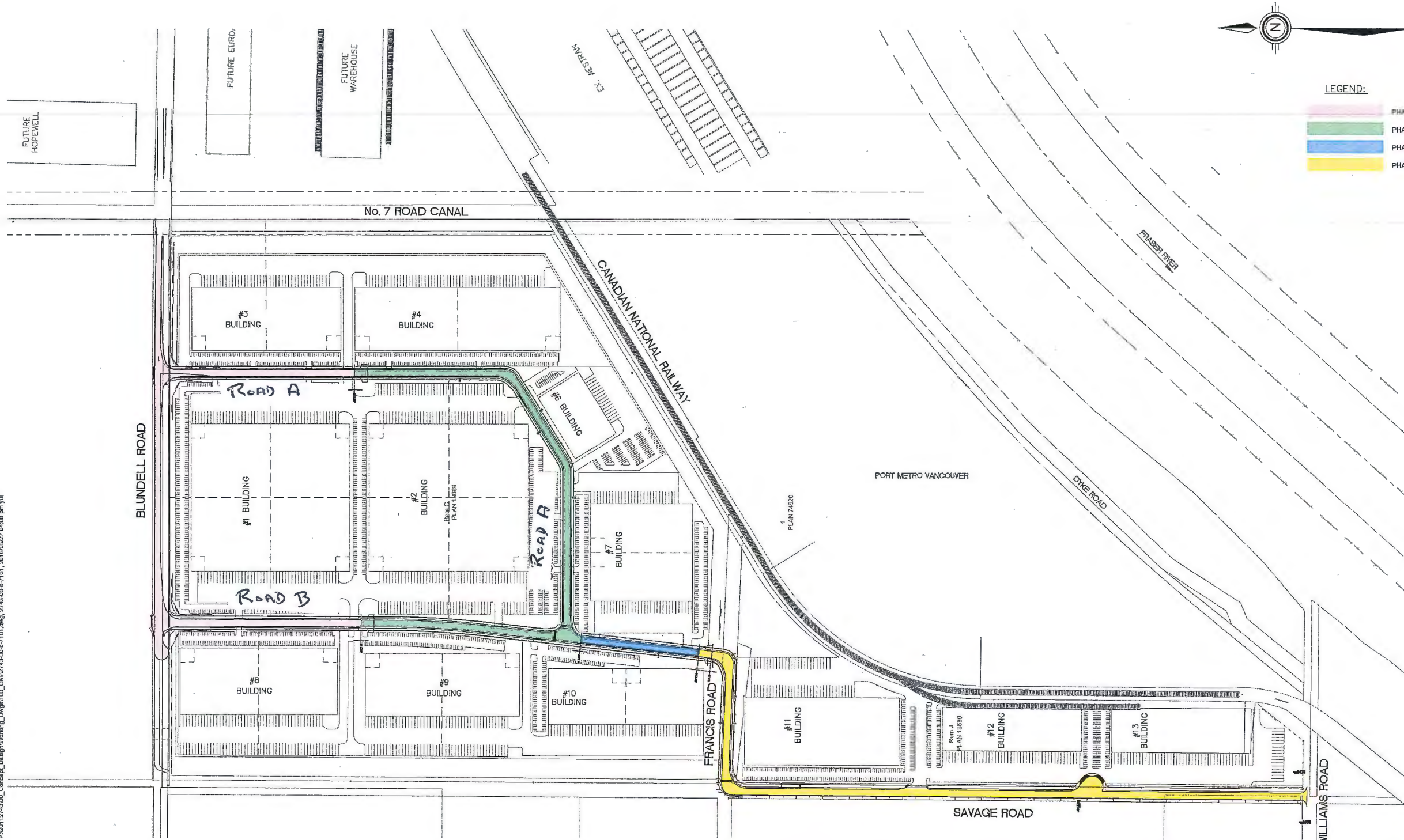


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Plan #9



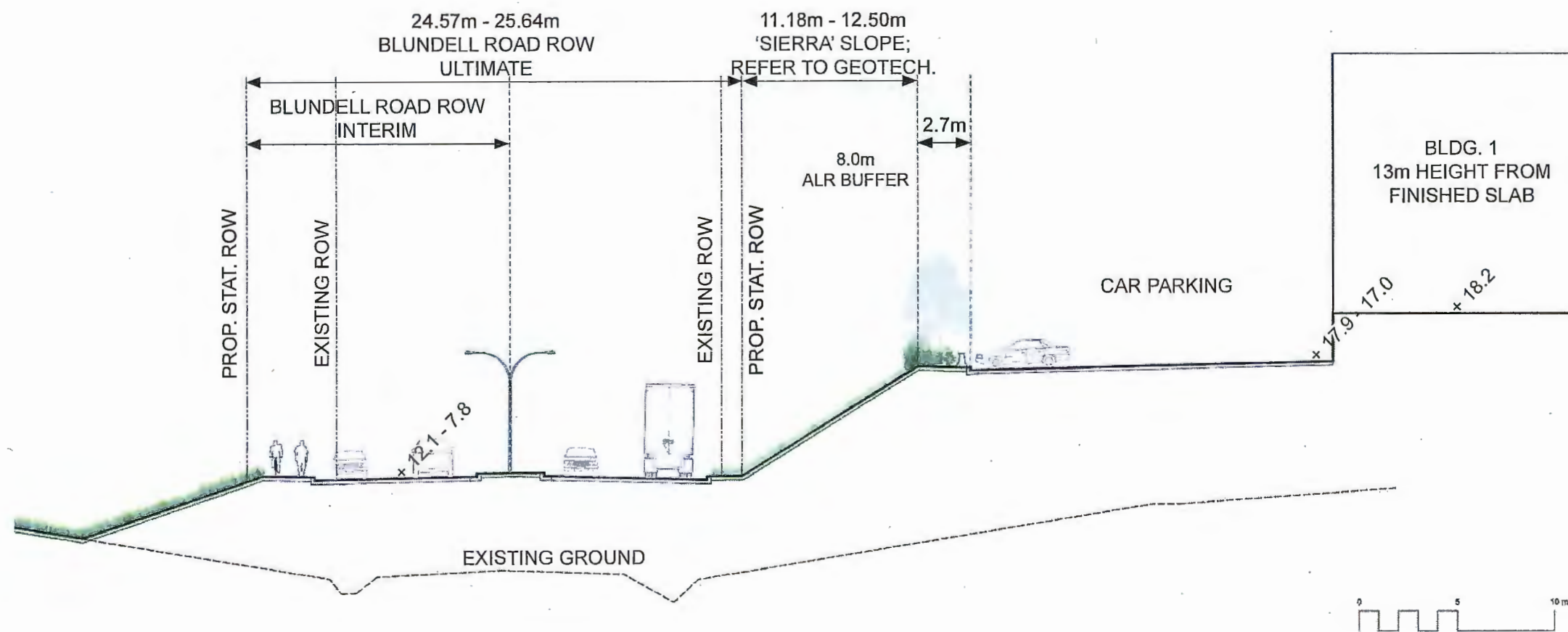
ROAD PHASING PLAN

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
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BLUNDELL ROAD ROW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

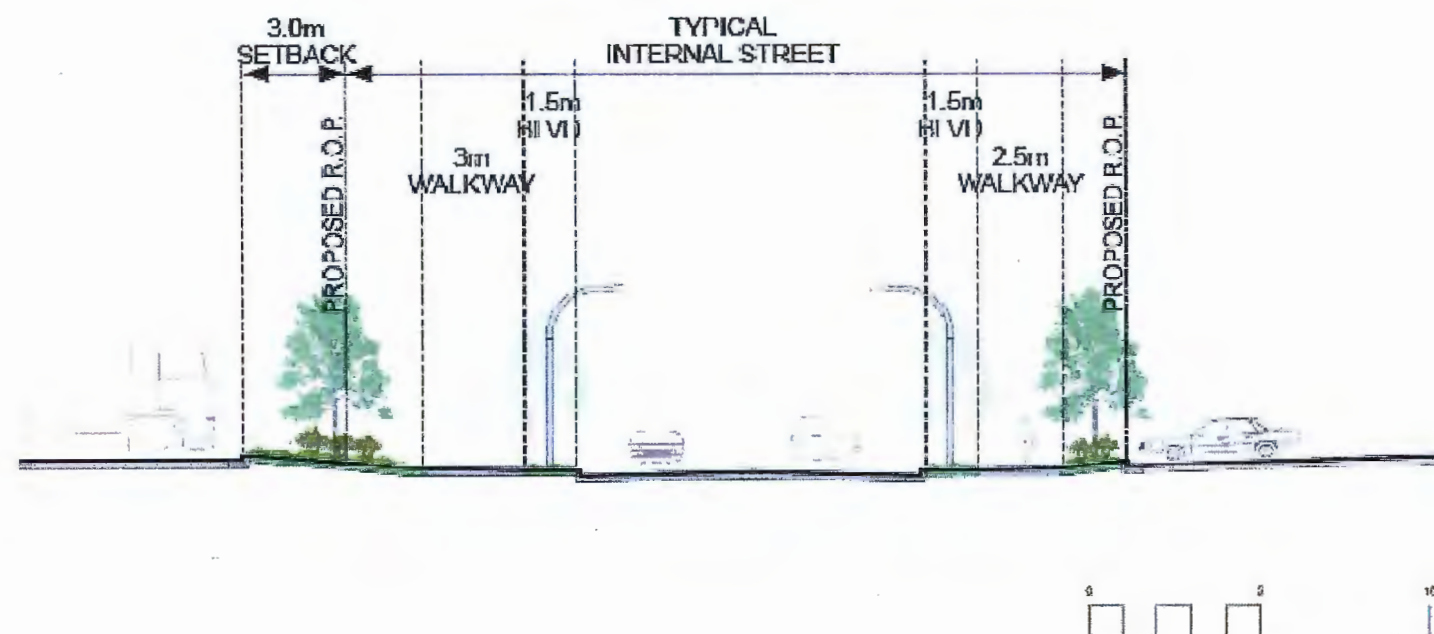


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Plan #11



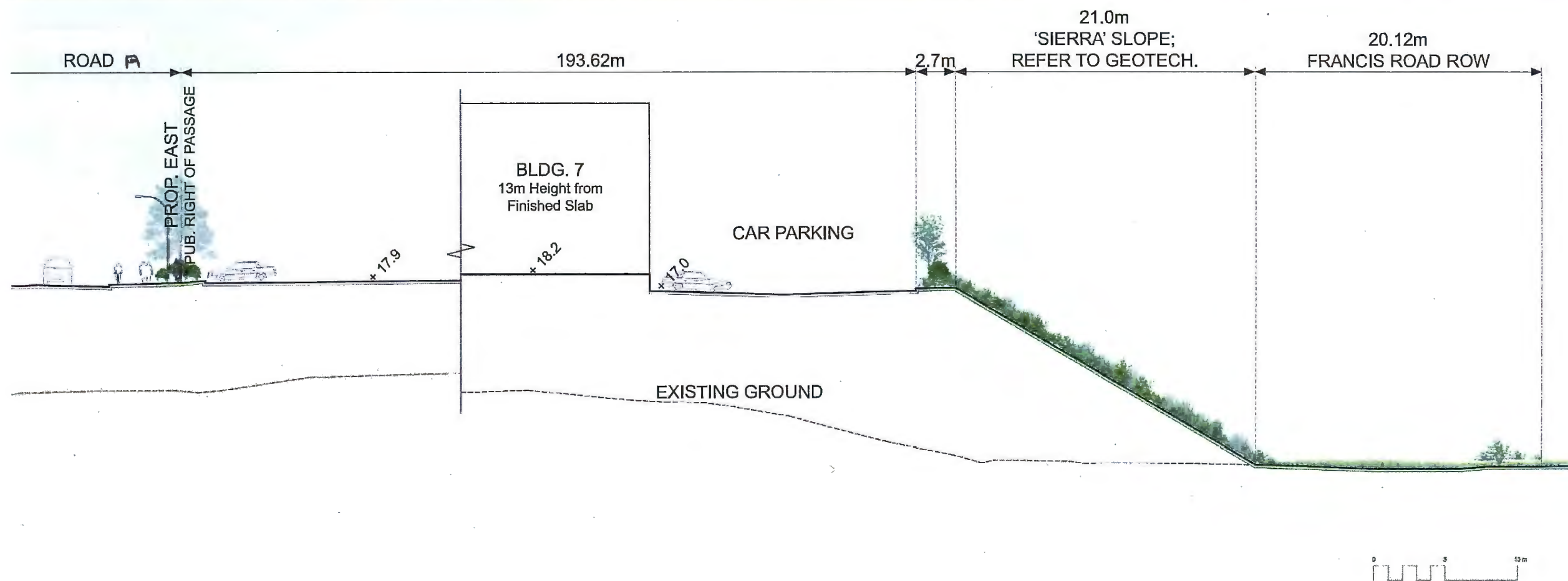
TYPICAL INTERNAL ROADWAYS

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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Plan #12
JUL 13 2016

FRANCIS ROAD ROW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
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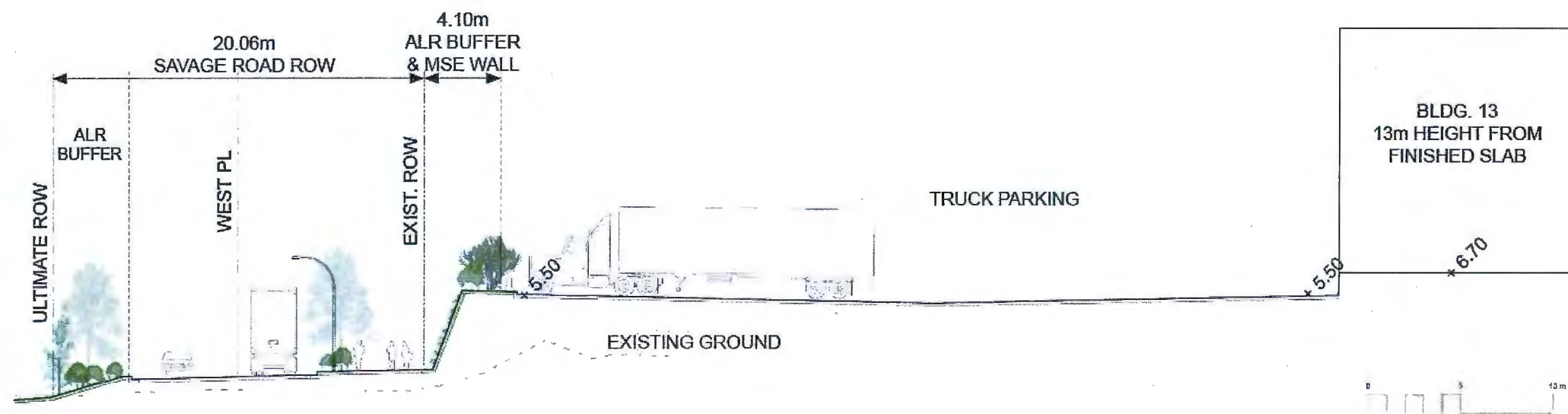


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Plan #13



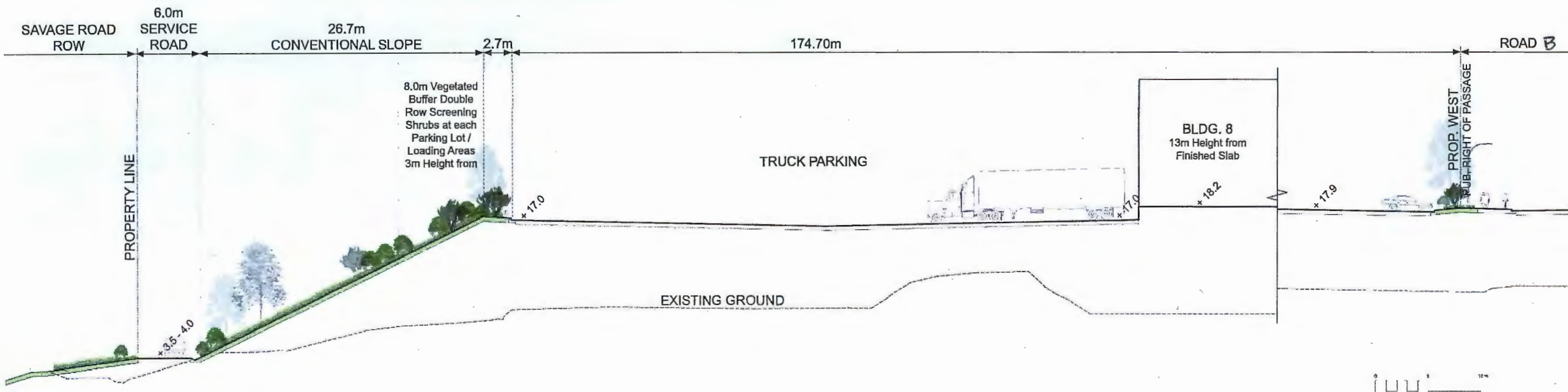
SAVAGE ROAD ROW (SOUTH OF FRANCIS)

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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SAVAGE ROAD ROW (NORTH OF FRANCIS)

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

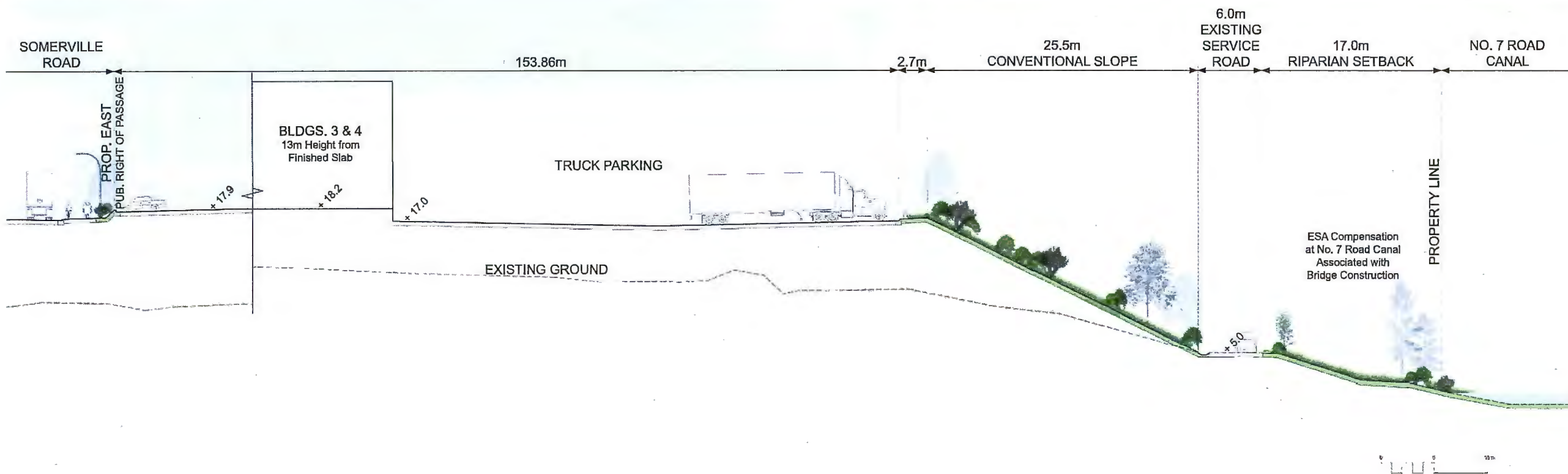


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Plan #14



JUL 13 2016

Plan #15

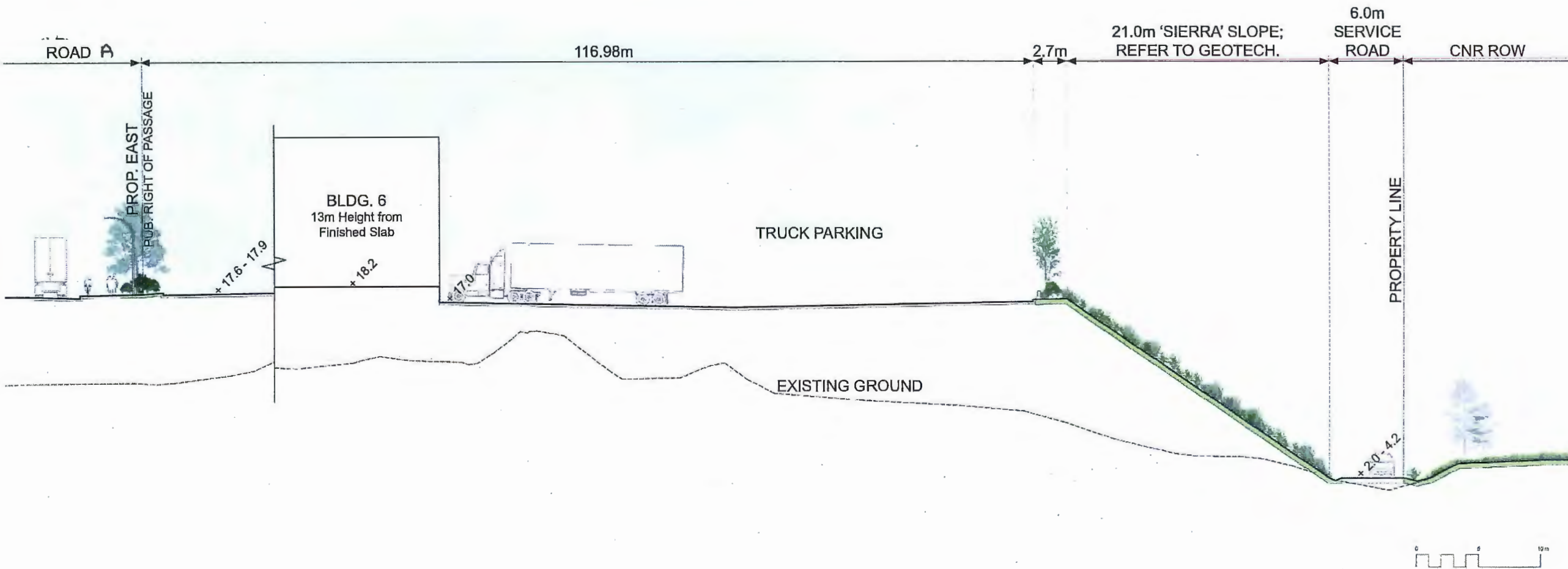
NO. 7 ROAD CANAL ESA / RMA COMPENSATION AREA

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
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CNR ROW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



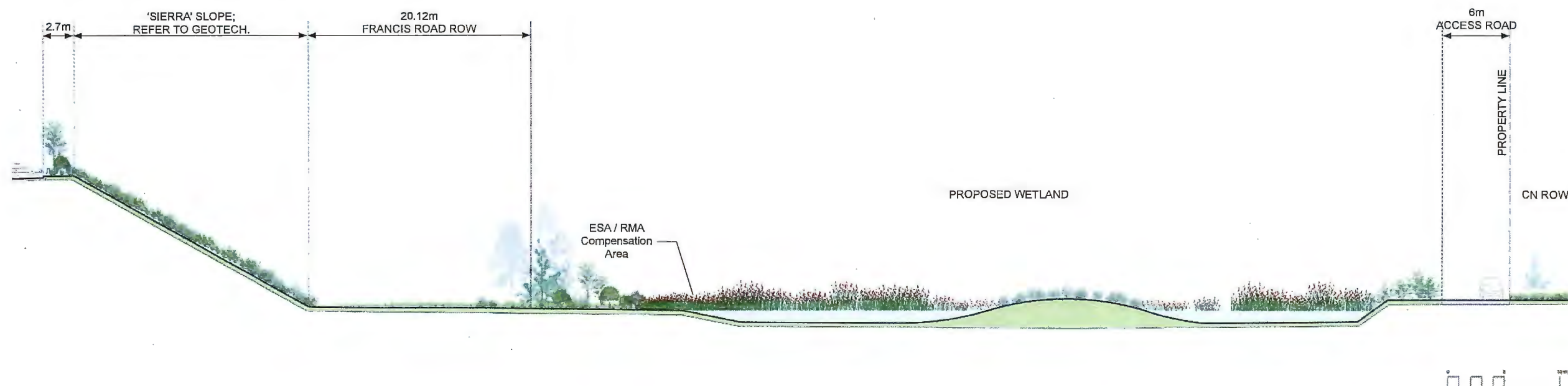
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Plan #16

Plan #17 JUL 13 2016



ONSITE COMPENSATION AREA

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
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REFERENCE DOCUMENTS

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Reference

AERIAL VIEW OF DEVELOPMENT LOCATION

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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Reference

DEVELOPMENT OVERVIEW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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DP 11-566011



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Reference

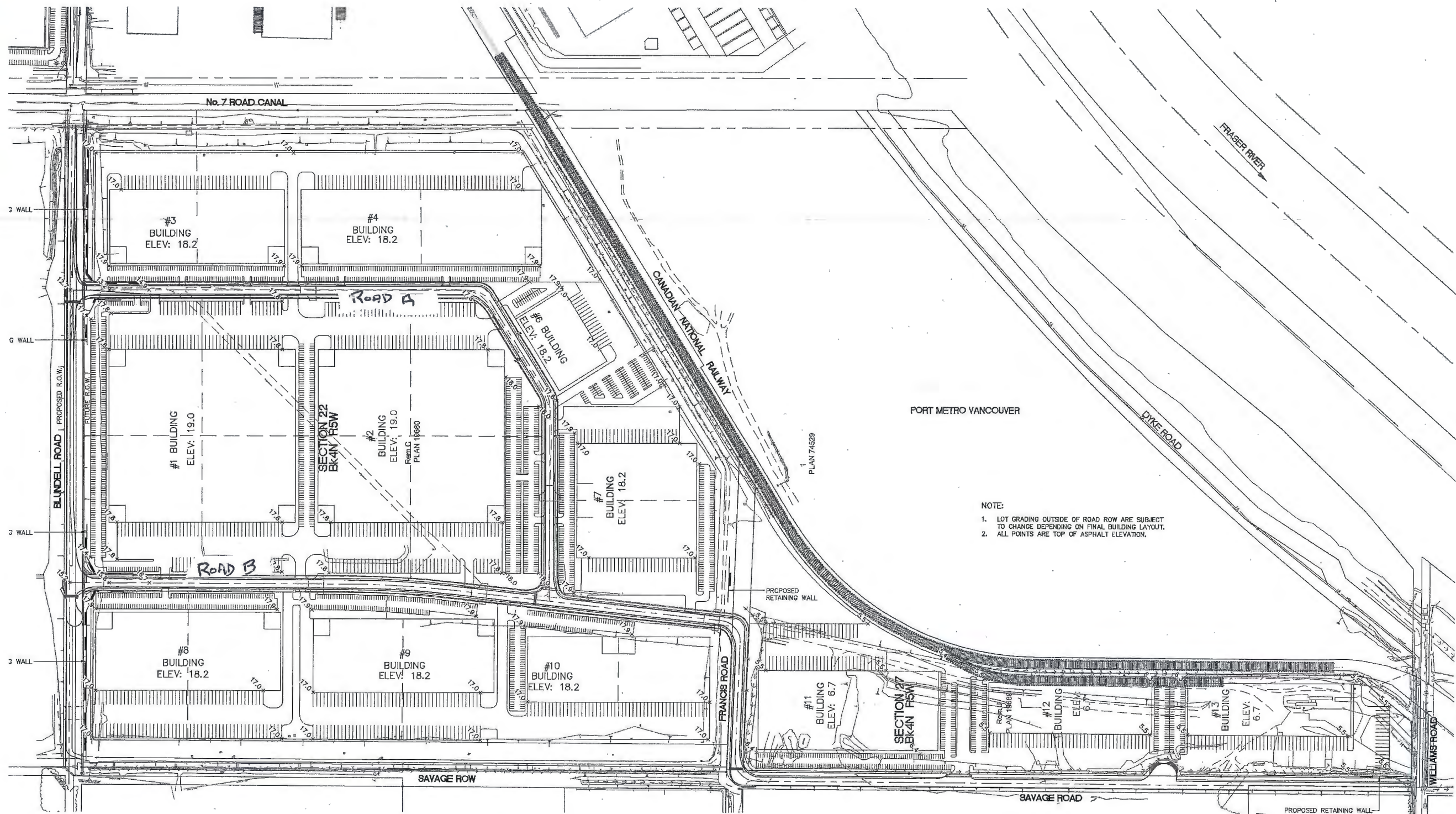
BUILDING ELEVATION — CONCEPTUAL

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



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LEGAL SITE PLAN — CONCEPTUAL

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FILE NO. DP 11-566011



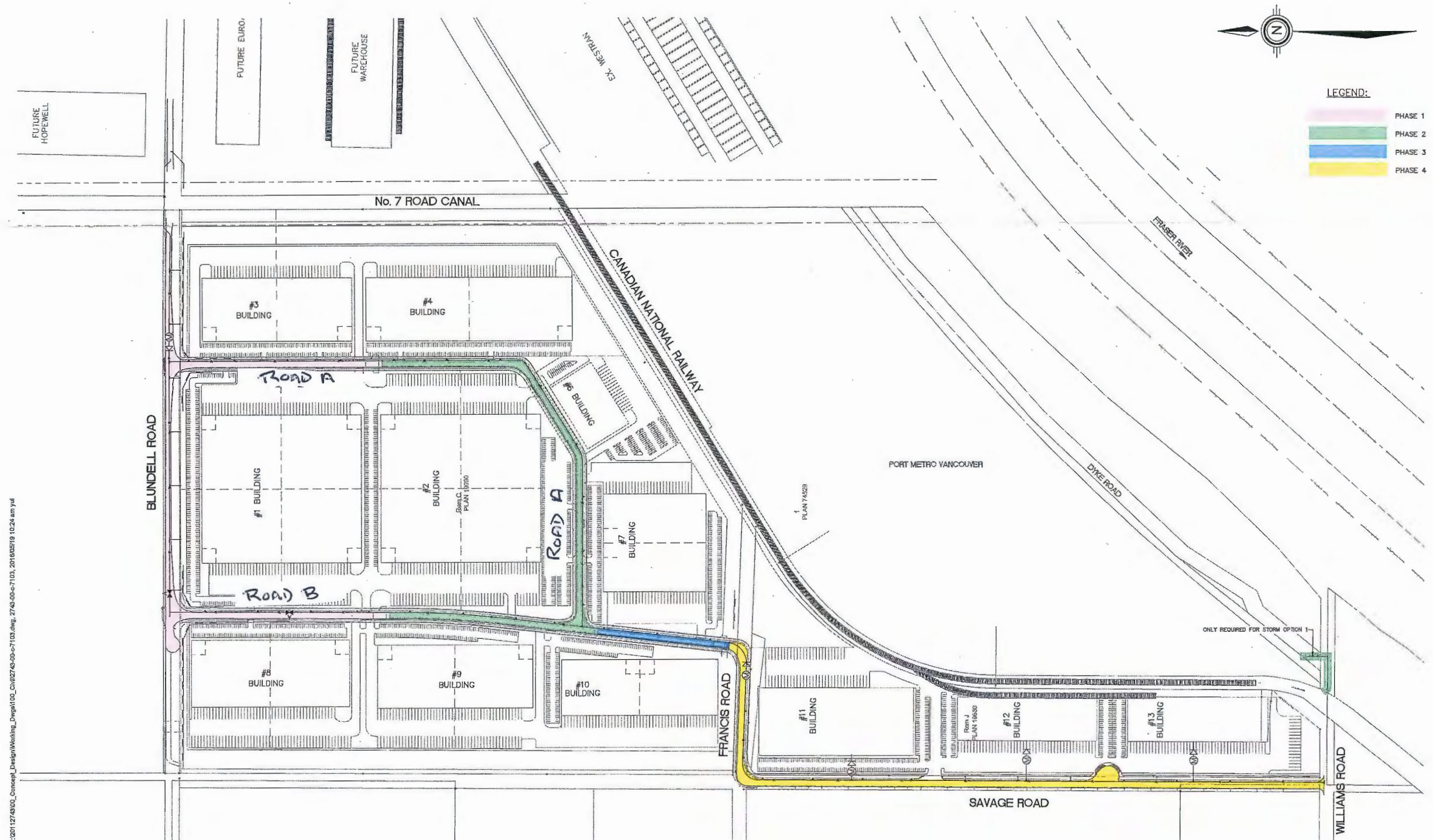
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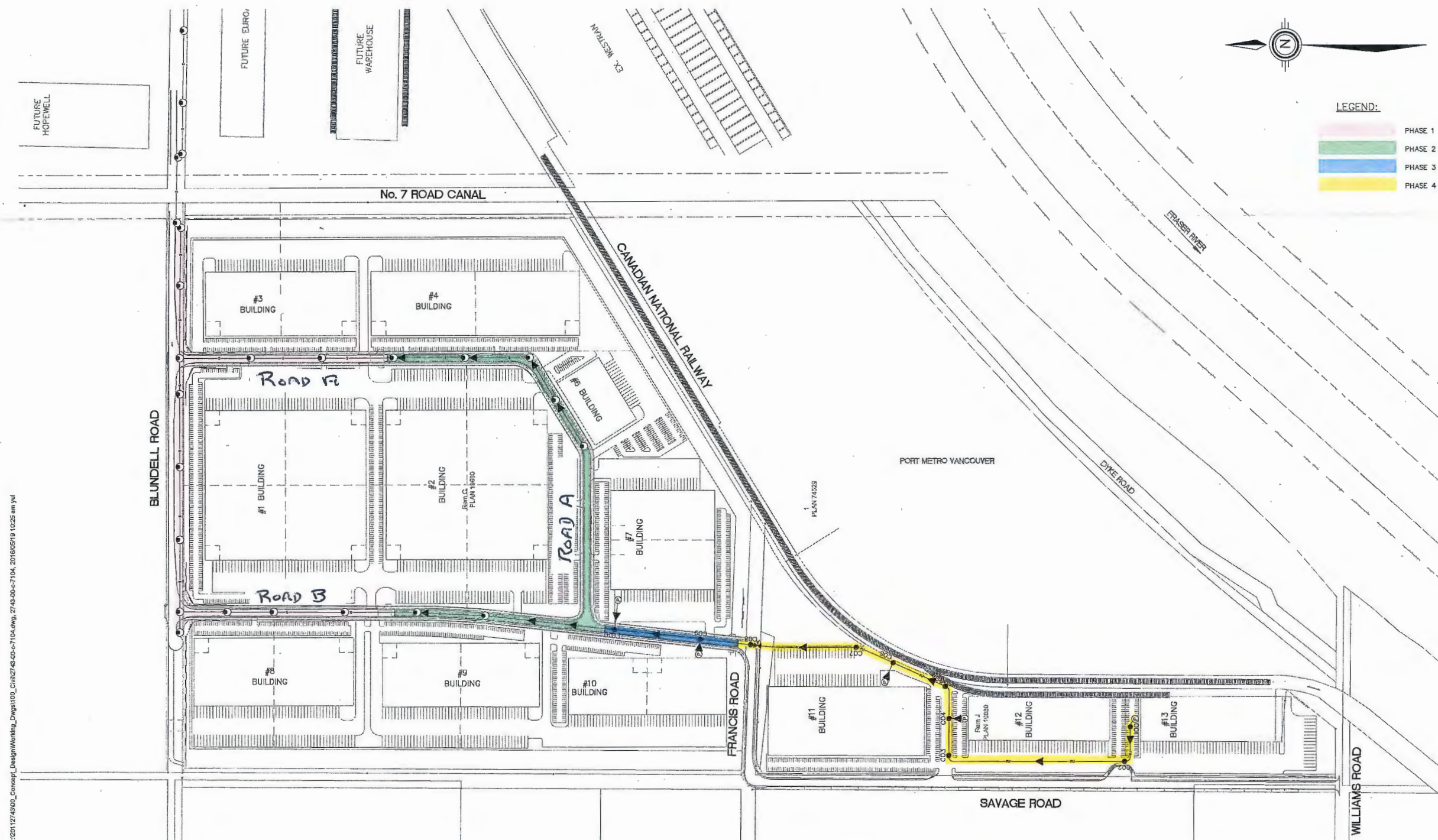
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DP 11-566011

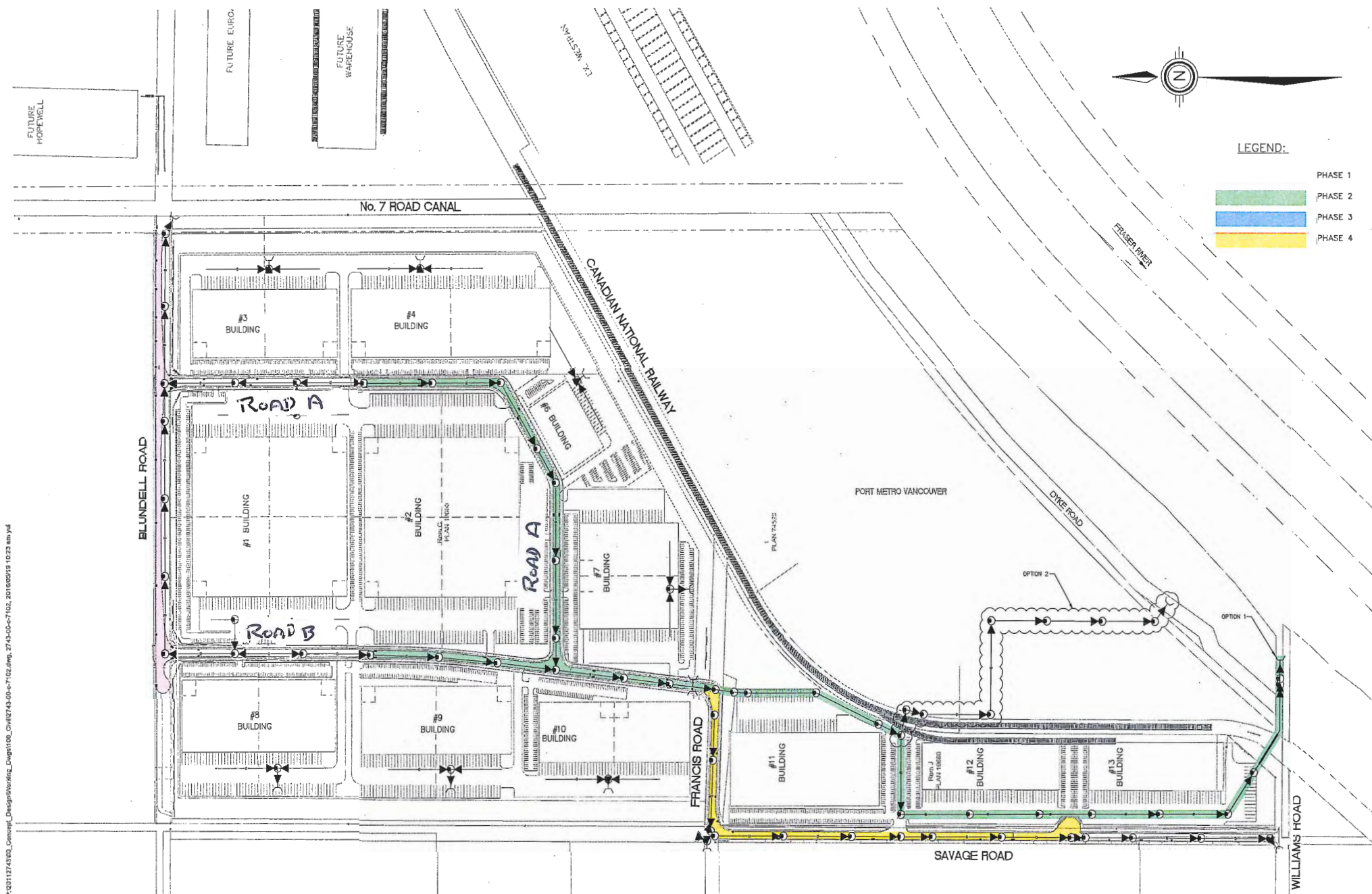
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DP 11-566011

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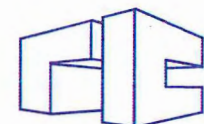
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STORM WATER SERVICING PLAN

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

FILE NO. DP 11-566011

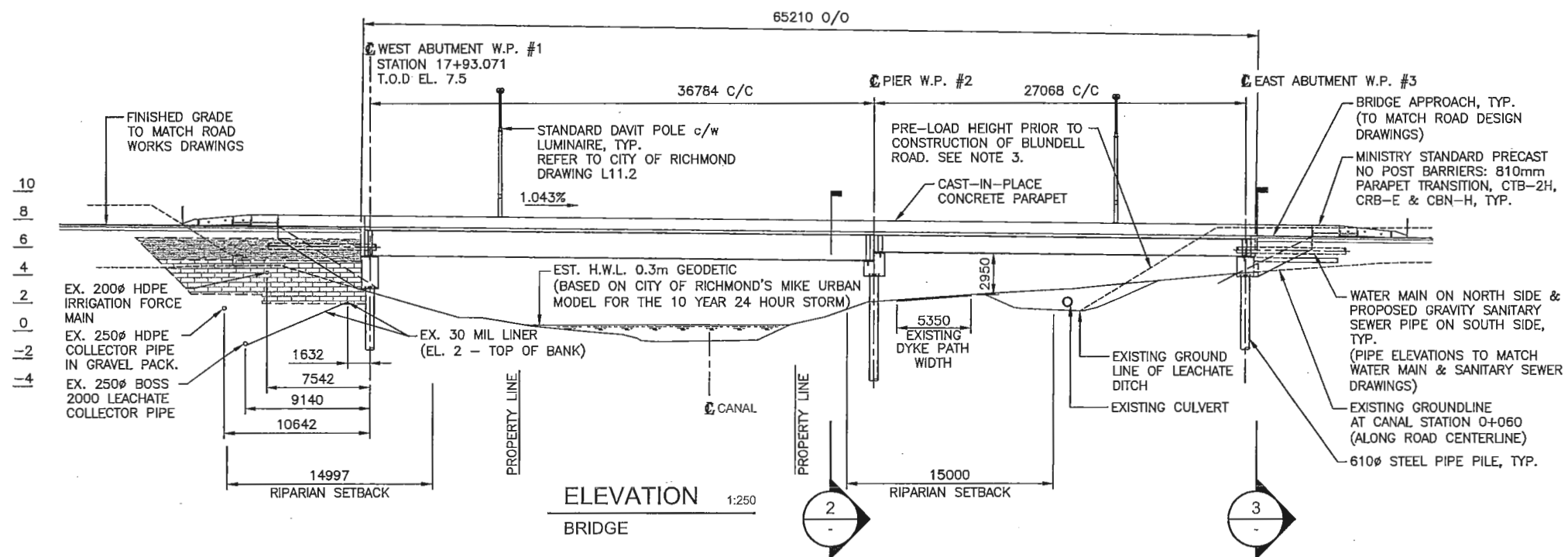
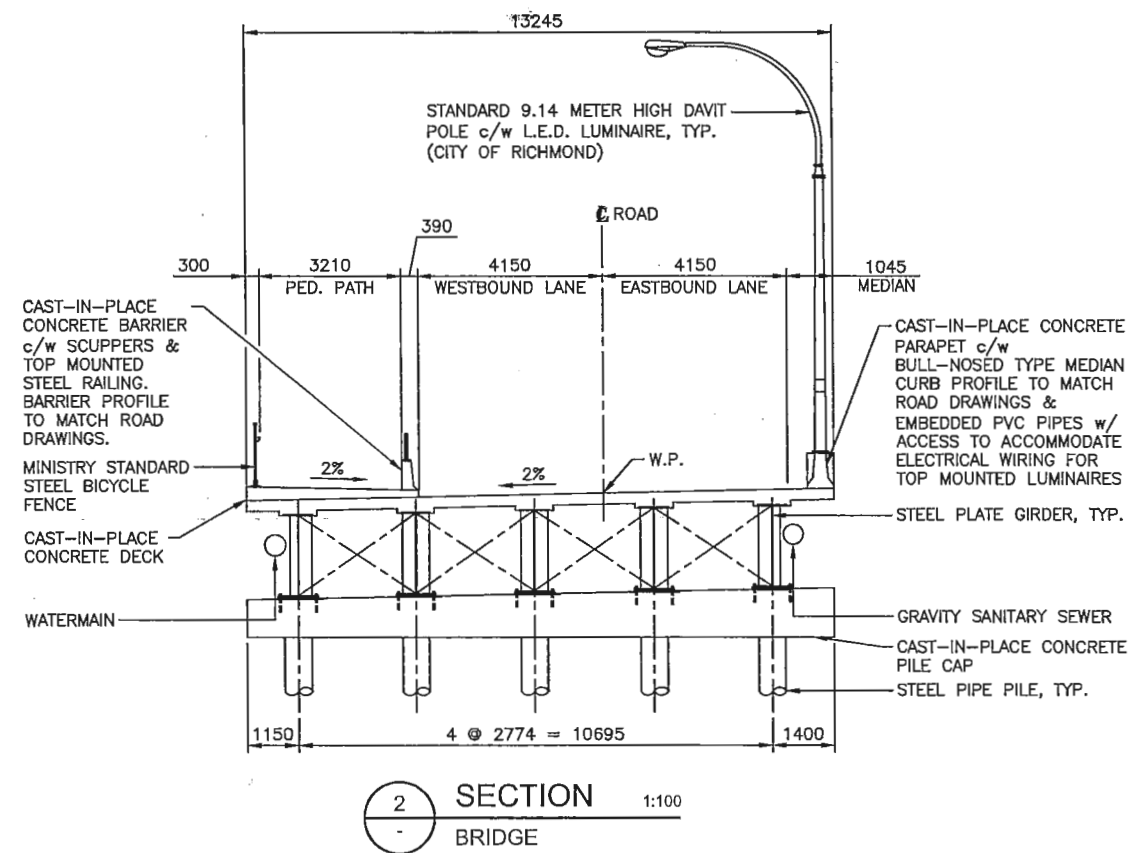
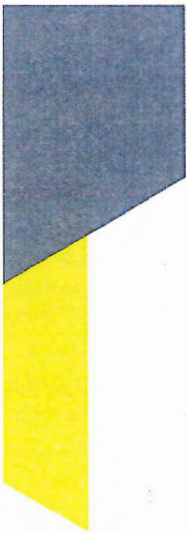


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JUL 13 2016

Reference



BLUNDELL BRIDGE OVER NO 7 ROAD CANAL ELEVATION AND SECTION

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

FILE NO. DP 11-566011



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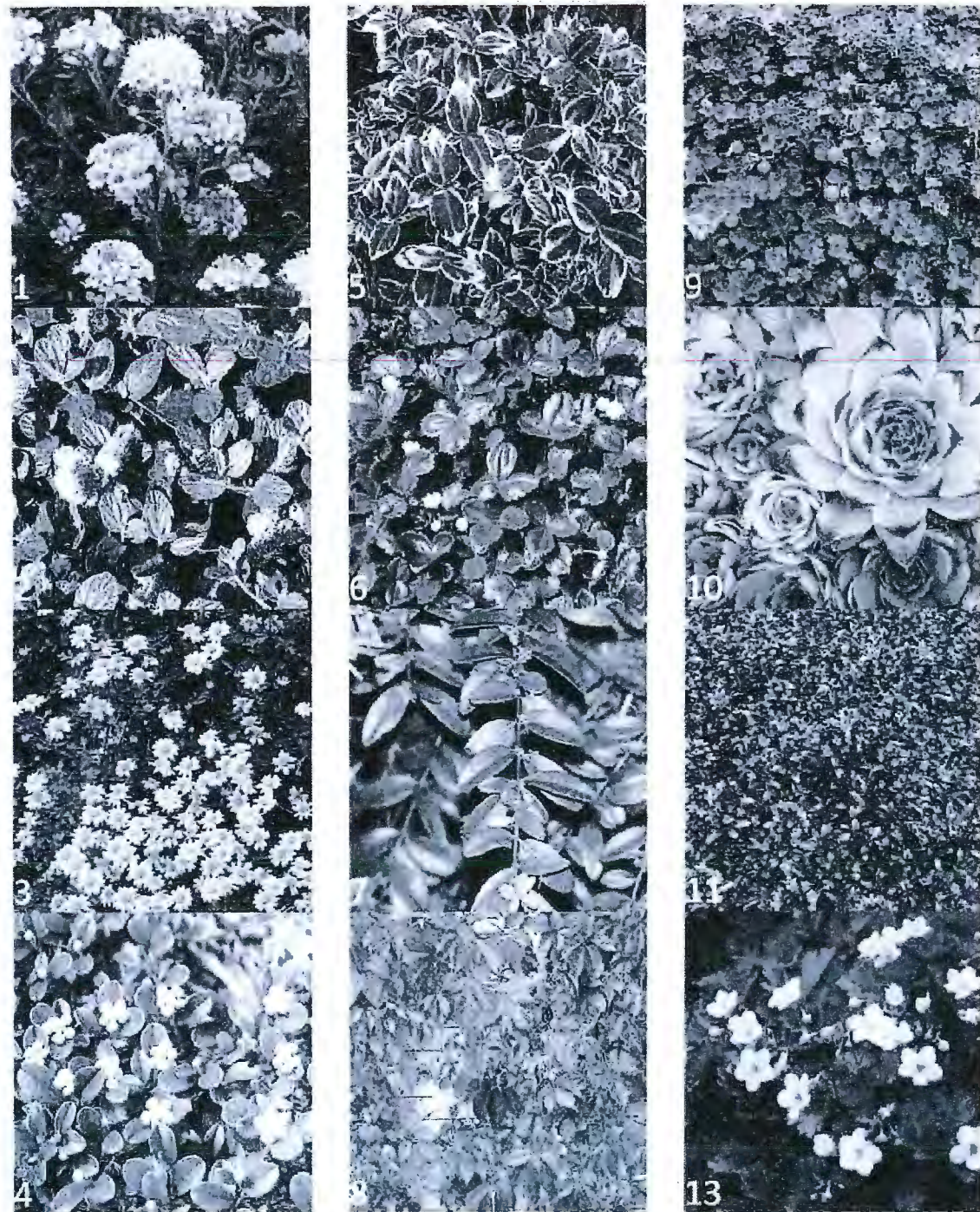
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Reference

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SHARP & DIAMOND
LANDSCAPE ARCHITECTURE

DRAFT

PLANT LIST - SIERRA SLOPE WALL SUNNY CONDITIONS

SHADY ORIENTATION PLANTS

ID	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
1	5%	Alyssium wulfenianum	Alpine Alyssum	4" pot	15" o.c
2	10%	Ceanothus griseus horizontalis	Creeping California Lilac	4" pot	15" o.c
3	5%	Chamaemelum Nobile	Creeping Chamomile	4" pot	15" o.c
4	10%	Cotoneaster dammeri	Little-Leaf Cotoneaster	4" pot	15" o.c
5	5%	Euonymus fortunei 'Emerald Gaiety'	Emerald Gaiety Euonymous	4" pot	15" o.c
6	15%	Fragaria chiloensis	Beach Strawberry	4" pot	15" o.c
7	5%	Pachistima myrsinites	Mountain Boxwood	4" pot	15" o.c
8	Base	Parthenocissus quinquefolia	Virginia Creeper	#1 pot	24" o.c
9	15%	Rubus calycinoides 'Emerald Carpet'	Creeping Raspberry	4" pot	15" o.c
10	10%	Sempervivum tectorum	Hens and Chicks	4" pot	15" o.c
11	10%	Thymus praecox 'Coccineus'	Creeping Thyme	4" pot	18" o.c
12	5%	Thymus pseudolanuginosus	Wooly Thyme	4" pot	15" o.c
13	5%	Waldsteinia ternata	Waldesteinia	4" pot	15" o.c

NOTES:

- 1 - PLANTS SHOWN ARE A SUGGESTION, AND SHOULD BE TAILORED TO THE SPECIFIC SITE DESIGNS AND CONDITIONS.
- 2 - A MINIMUM OF 8 DIFFERENT PLANT TYPES ARE RECOMMENDED FOR DIVERSITY OF PLANTING ON VEGETATED WALLS.
- 3 - ALL PLANT MATERIALS, SOILS, AND INSTALLATION TO MEET OR EXCEED THE BC LANDSCAPE STANDARD, LATEST EDITION.
- 4 - FINAL PLANT NUMBERS TO BE DETERMINED BASED ON THE AREA OF WALL FACE, DETERMINED BY SITE SPECIFIC DESIGNS.
- 5 - DO NOT USE PLANTS CONSIDERED INVASIVE FOR THE PROJECT LOCATION. ALTERNATE PLANT SPECIES SHOULD BE DETERMINED BY A QUALIFIED PROFESSIONAL.



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Unearthing better results

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Issue/Revisions

NO.	DESCRIPTION	DATE

Project Number

Date Created

Scale

NTS

Designed By

Drawn By

Checked By

Project

SIERRA 3H:8V SLOPE
GENERIC DESIGN

Sheet Title

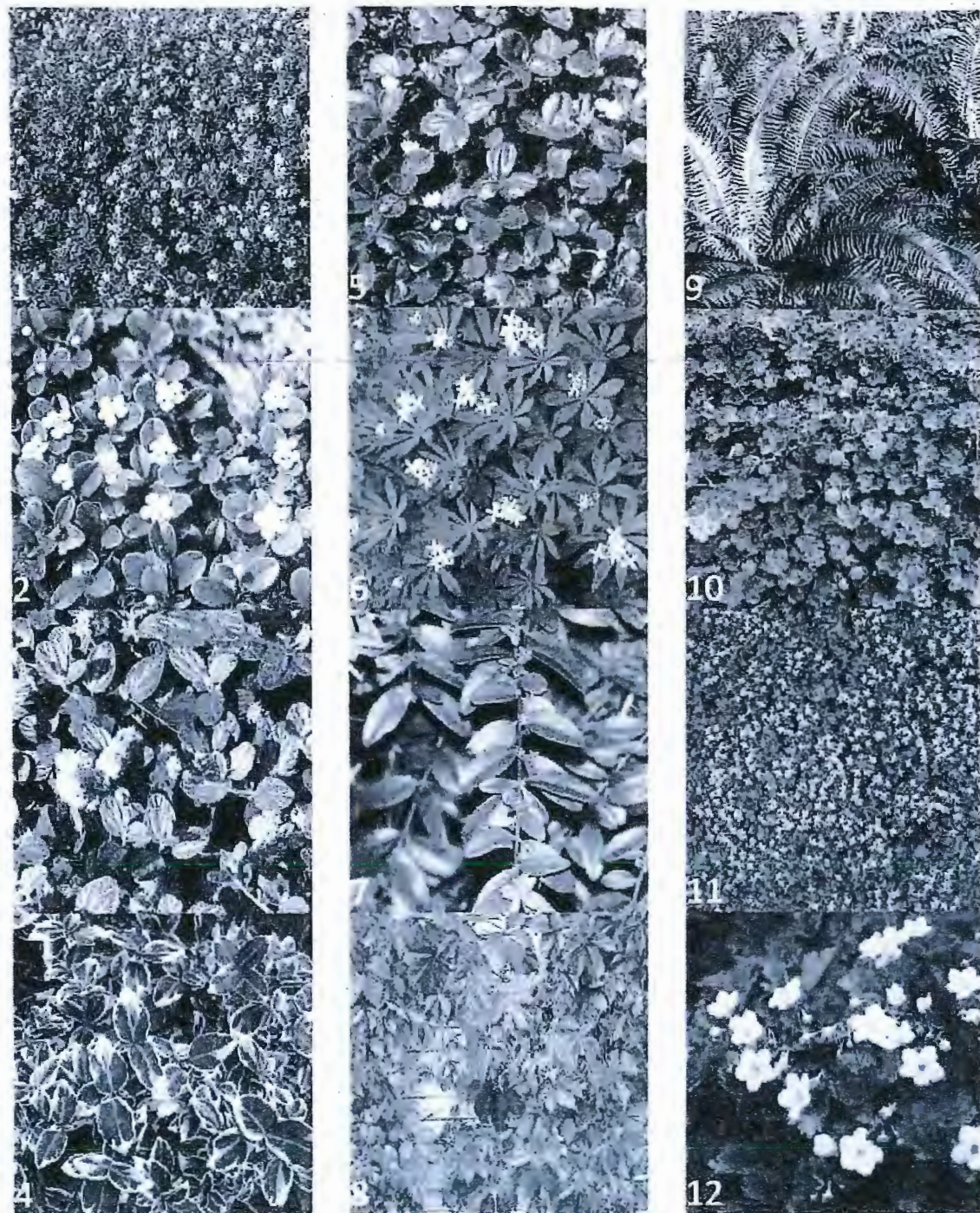
SUNNY CONDITION GENERIC
PLANT LIST

Drawing Number

DP 11-566011

JUL 13 2016

Reference



SHARP & DIAMOND
LANDSCAPE ARCHITECTURE

DRAFT

PLANT LIST - SIERRA SLOPE WALL PART SUN CONDITIONS

SHADY ORIENTATION PLANTS

ID	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
1	10%	Arctostaphylos uva-ursi	Kinnikinnick	4" pot	15" o.c
2	10%	Cotoneaster dammeri	Little-Leaf Cotoneaster	4" pot	18" o.c
3	10%	Ceanothus griseus horizontalis	Creeping California Lilac	4" pot	15" o.c
4	10%	Euonymus fortunei 'Emerald Gaiety'	Emerald Gaiety Euonymous	4" pot	15" o.c
5	15%	Fragaria chiloensis	Beach Strawberry	4" pot	15" o.c
6	10%	Galium odoratum	Sweet Woodruff	4" pot	15" o.c
7	5%	Pachistima myrsinites	Mountain Boxwood	4" pot	15" o.c
8	Base	Parthenocissus quinquefolia	Virginia Creeper	#1 pot	24" o.c
9	10%	Polystichum munitum	Western Sword Fern	4" pot	18" o.c
10	10%	Rubus calycinioides 'Emerald Carpet'	Creeping Raspberry	4" pot	15" o.c
11	5%	Thymus pseudolanuginosus	Wooly Thyme	4" pot	15" o.c
12	5%	Waldsteinia ternata	Waldesteinia	4" pot	15" o.c

NOTES:

- 1 - PLANTS SHOWN ARE A SUGGESTION, AND SHOULD BE TAILORED TO THE SPECIFIC SITE DESIGNS AND CONDITIONS.
- 2 - A MINIMUM OF 8 DIFFERENT PLANT TYPES ARE RECOMMENDED FOR DIVERSITY OF PLANTING ON VEGETATED WALLS.
- 3 - ALL PLANT MATERIALS, SOILS, AND INSTALLATION TO MEET OR EXCEED THE BC LANDSCAPE STANDARD, LATEST EDITION.
- 4 - FINAL PLANT NUMBERS TO BE DETERMINED BASED ON THE AREA OF WALL FACE, DETERMINED BY SITE SPECIFIC DESIGNS.
- 5 - DO NOT USE PLANTS CONSIDERED INVASIVE FOR THE PROJECT LOCATION. ALTERNATE PLANT SPECIES SHOULD BE DETERMINED BY A QUALIFIED PROFESSIONAL.



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Issue/Revisions

Issue/Revisions	Issue/Revisions	Issue/Revisions	Issue/Revisions

Project Number

Date Drawn

Scale

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Project

SIERRA 3H:8V SLOPE
GENERIC DESIGN

Sheet Title

PART SUN CONDITION GENERIC
PLANT LIST

Drawing Number

DP 11-566011

JUL 13 2015

Reference

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SHARP & DIAMOND
LANDSCAPE ARCHITECTURE

DRAFT

PLANT LIST - SIERRA SLOPE WALL SHADY CONDITIONS

SHADY ORIENTATION PLANTS

ID	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
1	10%	Blechnum spicant	Deer Fern	4" pot	18" o.c.
2	10%	Cotoneaster dammeri	Little-Leaf Cotoneaster	4" pot	18" o.c.
3	10%	Fragaria chiloensis	Beach Strawberry	4" pot	15" o.c.
4	10%	Fragaria Vesca	Woodland Strawberry	4" pot	15" o.c.
5	10%	Galium odoratum	Sweet Woodruff	4" pot	15" o.c.
6	10%	Gaultheria shallon	Salal	4" pot	18" o.c.
7	15%	Oxalis oregana	Redwood Spurge	4" pot	15" o.c.
8	10%	Pachysandra terminalis	Japanese Spurge	4" pot	15" o.c.
9	Base	Parthenocissus quinquefolia	Virginia Creeper	4" pot	24" o.c.
10	10%	Polystichum munitum	Western Sword Fern	4" pot	18" o.c.
11	5%	Waldsteinia ternata	Waldesteinia	4" pot	15" o.c.

NOTES:

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- 2 - A MINIMUM OF 8 DIFFERENT PLANT TYPES ARE RECOMMENDED FOR DIVERSITY OF PLANTING ON VEGETATED WALLS.
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SIERRA 3H:8V SLOPE
GENERIC DESIGN

Sheet Title

SHADY CONDITION GENERIC
PLANT LIST

Drawing Number

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Reference