

# City of Richmond

Planning and Development Department

# **Report to Committee**

To Council-Jul, 23, 2007

To Planning, July 17,2007

Date:

June 25, 2007

RZ 06-330060

Director of Development

Planning Committee

Jean Lamontagne

File: 8060.20.8274

Re:

To:

From:

Application by Watson and Barnard, BC Land Surveyors for Rezoning at

12751 Rice Mill Road from Agricultural District (AG1) to Light Industrial District

(12)

## Staff Recommendation

That Bylaw No. 8274, for the rezoning of 12751 Rice Mill Road from "Agricultural District (AG1)" to "Light Industrial District (I2)", be introduced and given first reading.

Jean Lamontagne

Director of Development

DN:blg Att.

FOR ORIGINATING DIVISION USE ONLY

**CONCURRENCE OF GENERAL MANAGER** 

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## **Staff Report**

## Origin

Watson and Barnard, BC Land Surveyors, have applied to rezone 12751 Rice Mill Road (Attachment 1) from "Agricultural District (AG1)" to "Light Industrial District (I2)" and subdivide to create approximately 15 light industrial lots (Attachment 2). The application also includes management of watercourses identified according to the Richmond-Specific Riparian Management Approach, and preservation, reconfiguration, loss and enhancement of Environmentally Sensitive Area (ESA).

## **Findings of Fact**

A Development Application Data Sheet providing details about the development proposal is attached (Attachment 3).

## **Surrounding Development**

To the north, an existing business park and established Environmentally Sensitive Area (ESA), approved by RZ 98-140480 and DP 00-174289 (for the ESA area) and zoned "Business Park Industrial District (I3)";

To the east, the existing Model Airplane Park, which is zoned "Agricultural District (AG1)" and within the Agricultural Land Reserve (ALR) and Highway 99;

To the south, separated from the subject site by Rice Mill Road, is a property owned by BC Ferry Services Inc. that is zoned "Agricultural District (AG1)" and "Light Industrial District (I2)". The site is currently under application (RZ 03-244710) to rezone the portion of the site currently zoned Agricultural District (AG1) to Light Industrial District (I2) to accommodate both current and future uses on the site. This rezoning proposal has not yet been forwarded to Council for consideration; and

To the west of the site, adjacent to No. 5 Road, are two (2) "Agricultural District (AG1)" zoned parcels, which are within the Agricultural Land Reserve (ALR).

## **Related Policies & Studies**

## Official Community Plan (OCP)

The bulk of the subject site is designated "Business and Industry" and the eastern edge of the site is designated "Conservation Area" in the Official Community Plan (OCP). The proposed land use is consistent with the plan and new development occurring within the neighbourhood.

## Riparian Areas Regulation (RAR)

The Riparian Areas Regulation (RAR), enacted under Section 12 of the Fish Protection Act in July 2004, requires local governments to protect riparian areas during residential, commercial, and industrial development. On March 27, 2006 Richmond City Council adopted a Richmond-Specific Riparian Management Approach as its response strategy for meeting the RAR.

The City's approach identifies watercourses within Richmond where the RAR applies and categorizes the system into one (1) of two (2) riparian management areas, in which development activities as identified in the RAR are not permitted to occur:

- 1. 15 m (50 ft.) Riparian Management Area from top of bank \*\*
- 2. 5 m (16 ft.) Riparian Management Area from top of bank

The site is bounded by watercourses including watercourses identified in the City of Richmond Riparian Management Areas map located along the east, south east, and south property lines (Attachment 4).

# **Environmentally Sensitive Areas (ESA)**

The City of Richmond Environmentally Sensitive Areas (ESA) map (Attachment 3 to Schedule 1 of Bylaw No. 7100), identifies the area along the north and east property lines as an ESA area. In accordance with the Official Community Plan (OCP), the applicant will proceed with an associated Development Permit (DP 06-340150) specific to the ESA area prior to adoption of the rezoning bylaw or subdivision of the site.

## Agricultural Land Reserve (ALR)

The subject site is not included in the Agricultural Land Reserve (ALR); however, the adjacent western properties and eastern properties (including the Model Airplane Park and area including Highway 99 and beyond) are included in the ALR. Typically, development immediately adjacent to a site designated within the ALR is required to provide a 15 m (50 ft.) wide landscape buffer along the ALR interface.

Provisions for an ALR buffer are not required in this context on the basis of previous consideration by the Agricultural Land Commission (ALC) that many of the parcels within the ALR designation located south of Steveston Highway and west of Highway 99 should be excluded. Further, the subject site and surrounding area is designated "Business and Industry" in the OCP.

## Department of Fisheries and Oceans (DFO)

As the applicant proposes reclassification from a 15 m (50 ft.) to 5 m (16 ft.) setback requirement for the RAR area located along Watercourse C (the area adjacent to the southeastern property line), an application for reclassification has been submitted to the City and Department of Fisheries and Oceans (DFO) for review and consideration.

City improvements along Rice Mill Road require filling the RAR classified watercourse located along the southern property line of the site (Watercourse D). An application to fill the existing ditch located on the north side of Rice Mill Road has been submitted to the DFO for authorization in accordance with the Federal Fisheries Act.

In both instances, the DFO has indicated support in principle for the undertakings; however, confirmation of concurrence from the DFO is required prior to adoption of Bylaw No. 8274.

<sup>\*\*</sup> Top of Bank: is defined by the Riparian Area Regulation (RAR) as the first significant break in a ravine slope where the break occurs such that the grade beyond the break is flatter than 3:1 for a minimum distance of 15 m measured perpendicularly from the break.

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# Ministry of Transportation (MOT)

As the subject site is located within 800 m of an intersection of a Provincial Limited Access Highway and a City road, the proposal was forwarded to the Ministry of Transportation (MOT) for comment. Approval from the MOT must be granted prior to the adoption of Rezoning Bylaw No. 8274.

## BC Hydro

A Rights-of-Way (ROW) in favour of BC Hydro is registered on the property along both the east and southeast property lines; it is an overhead and underground agreement (**Attachment 5**). The applicant has notified BC Hydro of the proposed development and BC Hydro's response indicates no objection in principle to the development proposal.

Any enhancement work proposed to be undertaken by the applicant within the Hydro Rights-of-Way (ROW) requires works specific approval from BC Hydro.

# Floodplain Management Implementation Strategy

In accordance with the City's Flood Management Strategy, the applicant is required to register a Flood Plain Covenant on title referencing the minimum habitable elevation for the area, which is 2.6 m (geodetic).

## Consultation

This rezoning application complies with the Official Community Plan (OCP). The statutory Public Hearing will provide area residents, businesses and property owners with opportunity to comment on the application.

## Public Input

The applicant has forwarded confirmation that a development sign has been posted on the site.

## Staff Comments

No significant concerns have been identified through the technical review.

# **Analysis**

## Significant Site Attributes

- For the purposes of analysis and discussion, the locations of the four (4) watercourses located on site, which include watercourses identified in the City of Richmond Riparian Management Areas Map and Environmentally Sensitive Area (ESA), will be referenced as Watercourse A, Watercourse B, Watercourse C, and Watercourse D (Attachment 4).
- The applicant's environmental consultant has undertaken a detailed assessment of the site conditions and developed a management strategy to meet the City's RAR response strategy and ESA requirements while facilitating rezoning and subdivision of the site.

• The following assessment is based upon an analysis of the site's perimeter conditions and connectivity between watercourses that was collected by a registered professional biologist who is also certified as a vegetation ecologist. The environmental consultant has reviewed habitat features, system connectivity, high water mark, and top of bank in the process of determining setbacks that preserve the integrity of the watercourses.

# **Proposed Action Plan (see Attachment 6)**

Riparian Areas Regulations (RAR) Watercourse B

- Watercourse B is identified as a Major Canal/Slough (15 m (50 ft.) Riparian Management Area) located under a Hydro Right-of-Way (ROW). The area is also identified as an ESA area and is designated "Conservation Area" in the OCP. The RAR designation secures the ESA setback; there is no conflict between the RAR and ESA designations and the habitat conservation requirements of both are satisfied (Attachment 5).
- To ensure the preservation of the habitat area, the applicant is required to register a no build covenant on title that also prohibits paving within the setback that applies to the 15 m (50 ft.) setback from the top of bank and an additional 3 m (9.8 ft.) to ensure the viability of preserving trees within the RAR area. Additionally, the applicant is required to provide a maintenance management plan that includes instructions to secure the long-term maintenance of the required setback area.
- Compensation for loss of ESA area along Watercourse A is proposed to be undertaken within Watercourse B; additional details will be provided as part of the forthcoming ESA Development Permit (DP 06-340150).
- Hydro concurrence is required as works are proposed within the Rights-of-Way (ROW).
- Possible dedication of the ESA enhancement area will be reviewed in association with the forthcoming ESA Development Permit (DP 06-340150).

## Watercourse C

- Watercourse C is identified as a Major Canal/Slough (15 m (50 ft.) Riparian Management Area) located under a Hydro Right-of-Way (ROW).
- The applicant's environmental consultant submitted an application to the City and DFO to reclassify the watercourse to Minor Watercourse (5 m (16 ft.) Riparian Management Area) on the basis that there is an absence of connectivity with Watercourse B.
- Confirmation of support for the reclassification of Watercourse C by the Department of
  Fisheries and Oceans (DFO) is required as a condition of rezoning and includes grade change
  to the channel to establish connectivity between Watercourse C and Watercourse B.
  Subsequent to an amendment to the classification, the designation of the watercourse on the
  City of Richmond Riparian Management Areas Map is to be amended to indicate a 5 m (16
  ft.) required setback from top of bank.
- To secure the updated setback and the existing landscaping within the setback area, the applicant is required to register an 8 m (26 ft.) wide no build setback on title, which includes

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- the installation of a low spit rail fence along the edge of the setback area. In addition, the applicant is required to provide a maintenance management plan for the preservation area.
- As there is overlap between the buffer and the Hydro Rights-of-Way (ROW), the applicant is required to substantiate Hydro's agreement to any portion of the split rail fence that proposes to encroach within the Right-of-Way (ROW).

## Watercourse D

- Watercourse D is identified as a Minor Watercourse (5 metre (16 ft.) Riparian Management Area). City required improvements along Rice Mill Road necessitate that this watercourse be filled to facilitate upgrading of Rice Mill Road. As this undertaking will result in the harmful alteration, disruption or destruction of fish habitat (HADD), the applicant is required to secure authorization from the DFO, as stipulated by the Federal Fisheries Act, prior to the adoption of Rezoning Bylaw No. 8274.
- A Servicing Agreement is required for the frontage works along Rice Mill Road (Attachment 9).
- The loss of area in Watercourse D is proposed to be compensated with compensation enhancement of approximately 1,714 m<sup>2</sup> (18,449 ft<sup>2</sup>) of area in Watercourse A. The DFO has indicated support for the proposed enhancement.

# Environmentally Sensitive Area (ESA) Watercourse A

- Although the details associated with ESA area on-site will be provided in the associated ESA Development Permit report (DP 06-340150), in order to undertake a comprehensive review of the habitat retention and enhancement proposed on the site, the ESA area must be considered. The Official Community Plan (OCP) requires that development adjacent to a slough located in an ESA dedicate or preserve and maintain a natural, vegetated buffer strip within the first 15.2 m (50 ft.) from the high water mark\*. Development (buildings, structures and/or parking) is not permitted within the setback.
- Hartnell Slough is situated along the north property line (Watercourse A); the corresponding total ESA area is approximately 3,514 m<sup>2</sup> (37,824 ft<sup>2</sup>). Instead of retaining a no-disturbance setback area at 15.2 m (50 ft.) from the high water mark, the applicant proposes to use the existing landscape/vegetation line to delineate the setback area, and compensate for the shortfall in area by replanting and restoring a similar nearby area in accordance with provisions within the OCP. **Attachment 6** illustrates the applicant's proposal to offset the proposed loss of ESA area located at the northwest corner of the site by improving 1,063 m<sup>2</sup> (11,442 ft<sup>2</sup>) of area on the eastern portion of the site.
- The applicant proposes to transfer ownership of the area identified as ESA along the northern portion of the lot to the City (approximately 2,451 m<sup>2</sup> (26,382 ft<sup>2</sup>)). Prior to transferring ownership, the applicant will undertake any required improvements (including garbage removal, and tree removal) subject to consultation with the City's Parks Department.
- To secure the survival of trees within the ESA area, a 3 m (9.8 ft.) wide setback from the edge of the vegetation boundary is to be secured by a no build covenant that is to be registered on

<sup>\*</sup> High Water Mark: is defined as the visible high water mark of a stream where the presence and action of the water are so common and unusual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as the nature of the soil itself, and includes the active floodplain.

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- title. A low split rail fence is to be installed along the edge of the ESA area to identify the edge of the preservation area and an associated maintenance management plan is required.
- The Richmond ESA map also identifies a small area adjacent to Watercourse B as ESA, which will remain. The area is also designated as RAR area; as a result of securing the RAR area for preservation, the ESA habitat is similarly retained. As a result, no changes to the Richmond ESA map are required for this portion of the site.

# Synopsis of Applicant's Strategy to address RAR and ESA Requirements

# Land Area Impacts

Watercourse	Area		Net Change		
	Current	Post-proposal	Post-proposal		
Watercourse B	1308 m <sup>2</sup>	1308 m <sup>2</sup>	No change		
Watercourse C	1270 m <sup>2</sup>	1270 m <sup>2</sup>	Based on reclassification to a required 5 m setback from top of bank		
Watercourse D	1580 m <sup>2</sup>	0 m <sup>2</sup>	-1580 m <sup>2</sup>		
Watercourse A	3546 m <sup>2</sup>	2483 m <sup>2</sup>	-1063 m <sup>2</sup>		
Total	6434 m <sup>2</sup>	3791 m <sup>2</sup>	-2643 m <sup>2</sup> loss of area to be compensated (see <i>Compensation Enhancement Summary</i> below)		

## Compensation Enhancement Summary

Watercourse	Proposal
Watercourse B	Comply with RAR setback (1,308 m² area (14,079 ft²)). 18 m (59 ft.) wide setback is to be secured by registration of a no build covenant on title, that prohibits paving within the setback.  An area of 1,063 m² (11,442 ft²) to be enhanced as compensation for area loss within Watercourse A.  Concurrence from BC Hydro for proposed enhancement within the Right-of-Way (ROW) is required. An associated maintenance management plan is required.
Watercourse C	Reclassify to 5 m (16 ft.) RAR setback, which requires grading the channel to establish connectivity with Watercourse B.  Secure an 8 m (26 ft.) wide setback, which includes a 5 m (16 ft.) RAR setback and an additional 3 m (9.8 ft.) wide setback to ensure tree retention, with a no build covenant that includes the introduction of a low fence to delineate the setback. An associated maintenance management plan is required.

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Watercourse D	Fill Watercourse D located adjacent to Rice Mill Road subject to authorization from the DFO and removal of RAR designation from the City system. Compensation to be undertaken at a 1:1 ratio or better through enhancement within Watercourse A as approved by the DFO. A Servicing Agreement is required for the associated improvements along Rice Mill Road.
Watercourse A	Loss of 1,063 m <sup>2</sup> (11,442 ft <sup>2</sup> ) of ESA area to be compensated by enhancements along Watercourse B and Hartnell Slough (both on and off the subject property). The details will be discussed in association with DP 06-340150. Approximately 6,690 m <sup>2</sup> (72,010 ft <sup>2</sup> ) to be enhanced of which 4,207 m <sup>2</sup> (45,283 ft <sup>2</sup> ) will be on the City-owned property located north of the subject site).  Ownership of the portion of ESA area along the northern portion of the lot (~2451 m <sup>2</sup> ) is to be transferred to the City. A 3 m (9.8 ft.) wide no build area and introduction of a low fence is required to secure preservation of trees within the ESA area. An associated maintenance management plan is required.
Total area loss	-2,643 m <sup>2</sup> (28,449 ft <sup>2</sup> ), representing an area loss of approximately 40%
Total area to be	$7,753 \text{ m}^2 (83,452 \text{ ft}^2) \text{ of which } \sim 4,207 \text{ m}^2 (45,283 \text{ ft}^2) \text{ will be on the}$
enhanced	northern adjacent City owned parcel). Enhancement is proposed at a
	2.93:1 ratio.
	The City's Environmental Programs Department has determined that the
	proposed approach meets the City's RAR Response Strategy.

## Tree Preservation

- The submitted Arborist report identifies 284 trees on site; 121 of these trees are within required setback areas and will be retained (Attachment 7). The removal of 163 trees will be addressed through a combination of relocating trees to another site owned by the property owner, relocating suitable trees to enhancement areas on-site, and planting replacement trees within the required habitat setback areas.
- Attachment 8 conceptually represents the landscaping and habitat enhancement proposed to be undertaken within Watercourse A and Watercourse B, which will be further discussed in association with DP 06-340150.
- In association with DP 06-340150, the applicant is required to substantiate the feasibility of relocating trees on/off-site, the provision of replacement planting at a ratio of 2:1 in accordance with the OCP, or a combination of the two responses. If the relocation of trees is not feasible and/or the required number of replacement trees cannot be accommodated on the site, the applicant will provide a cash-in-lieu contribution or be required to plant replacement trees on City-owned property in an alternate location.
- The Tree Preservation Officer accepts the preliminary approach, which will be further refined in association with DP 06-340150.

# Road Dedications, Transportation and Upgrades

 The applicant is required to enter into a Servicing Agreement for the design and construction of the frontage work required along Rice Mill Road as well as the design and construction of

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- the new internal road required to facilitate access in accordance with the proposed subdivision plan, as outlined in **Attachment 9**.
- At the time the lots located on the south side of Rice Mill Road develop, the ultimate 20.12 m
  (66 ft.) wide Right of Way is to be achieved. An interim function width is a 13.25 m (43 ft.)
  wide Right of Way and associated works, which will be coordinated through the Servicing
  Agreement.
- The applicant is required to a 20 m (65 ft.) wide Right of Way for the internal road, which includes 11.2 m (36 ft.) width of pavement, curb and gutter, sidewalk and boulevard on both sides.

# Servicing Capacity

- The site is located midway between two major storm catchments, as a result, a storm, sanitary and water analysis was required to be provided to the satisfaction of Engineering.
- Details associated with the required water, storm and sanitary upgrades as determined by the Capacity Analysis are to be undertaken in association with the Servicing Agreement.
- In accordance with the recommendation of the applicant's engineer, a 6 m (19.6 ft.) wide right of way along the southern edge of proposed Lot 1 is required for sanitary sewer.
- The sanitary sewer is not permitted within Watercourse A in the DFO designated enhancement area that is to be provided as compensation for the filling of Watercourse D.
- Storm water will rewet Watercourse A; water treatment units, that are to the satisfaction of the City, are required to ensure water quality.

# Proposed Development Permit (DP 06-340150)

- As mentioned above, ESA areas on the City of Richmond ESA Map are identified adjacent to Watercourse A and Watercourse B. Proposed enhance within the ESA area is attached for reference (Attachment 8); the details will be discussed in the associated ESA Development Permit (DP 06-340150). The review includes consideration of the total existing ESA area based on a calculation of 15.2 m (50 ft.) from the high water mark, the proposed total ESA area, and details related to proposed habitat enhancement including a long term management strategy.
- The Development Permit process requires that the applicant provide a survey plan to confirm the area at the northern portion of the site to be transferred to City ownership. The northern adjacent linear lot was dedicated to the City at the time the adjacent light industrial development was undertaken. Acquisition of ESA area on the subject site will secure the integrity of the ESA area.
- The applicant is required to substantiate that the placement of services beneath the ESA area within Watercourse A will not be located within the fish bearing compensation area provided as reparation for filling Watercourse D.
- The applicant is required to provide confirmation that BC Hydro concurs to the enhancement and landscaping proposed within the Hydro Rights-of-Way (ROW) and to provide a management plan to secure the long-term management of the habitat areas.

# Financial Impact or Economic Impact

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No financial or economic impacts are expected to result from the proposed development.

## Conclusion

The proposal to rezone the subject site to "Light Industrial District (I2)" is supported. RAR requirements and conditions to ensure habitat preservation have been identified according to the Richmond-Specific Riparian Management Approach. Similarly, preservation, reconfiguration and enhancement of ESA have been considered in conjunction with preservation of RAR area and will be discussed in greater detail in the associated ESA Development Permit (DP 06-340150). Considering the ESA and RAR area collectively, the proposed enhancement area would result in a ratio of 2.93:1 enhancement area to original area.

Diana Nikolic, MCIP Planner II (Urban Design) (Local 4040)

DN:blg

## Attachments

Attachment 1: Location Map

Attachment 2: Conceptual Development Plans

Attachment 3: Development Application Data Sheet

Attachment 4: Required RAR and ESA Setback Areas

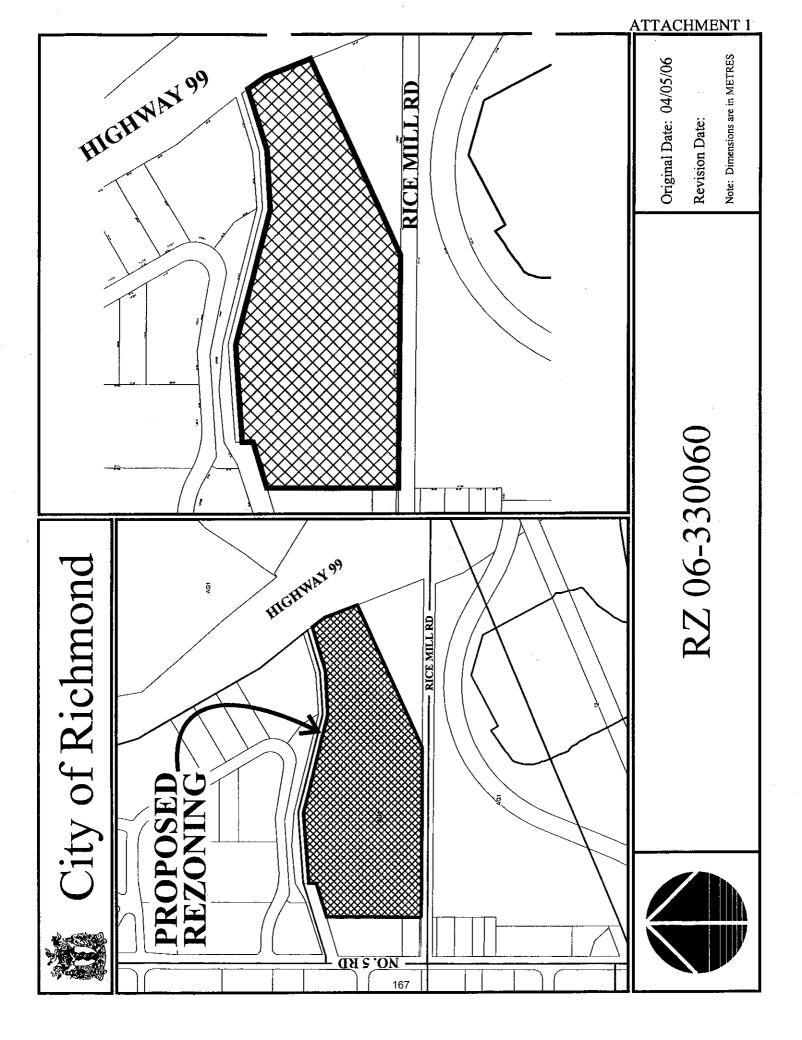
Attachment 5: Hydro Rights-of-Way and RAR Setbacks

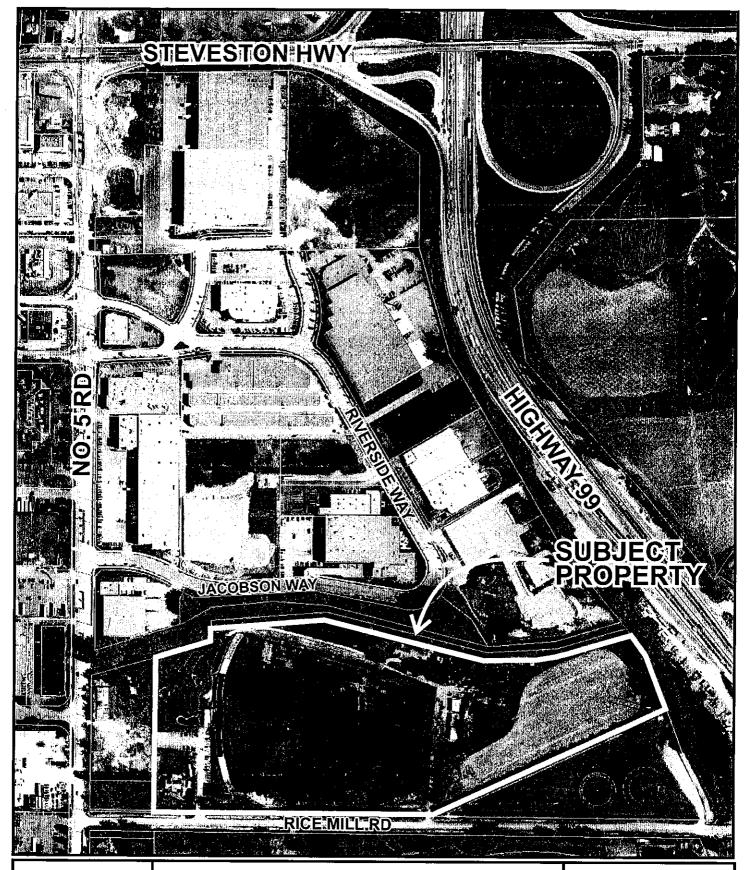
Attachment 6: Proposed Loss and Compensation Areas

Attachment 7: Tree Removal/Retention Report

Attachment 8: Proposed ESA Enhancement Plan

Attachment 9: Rezoning Considerations





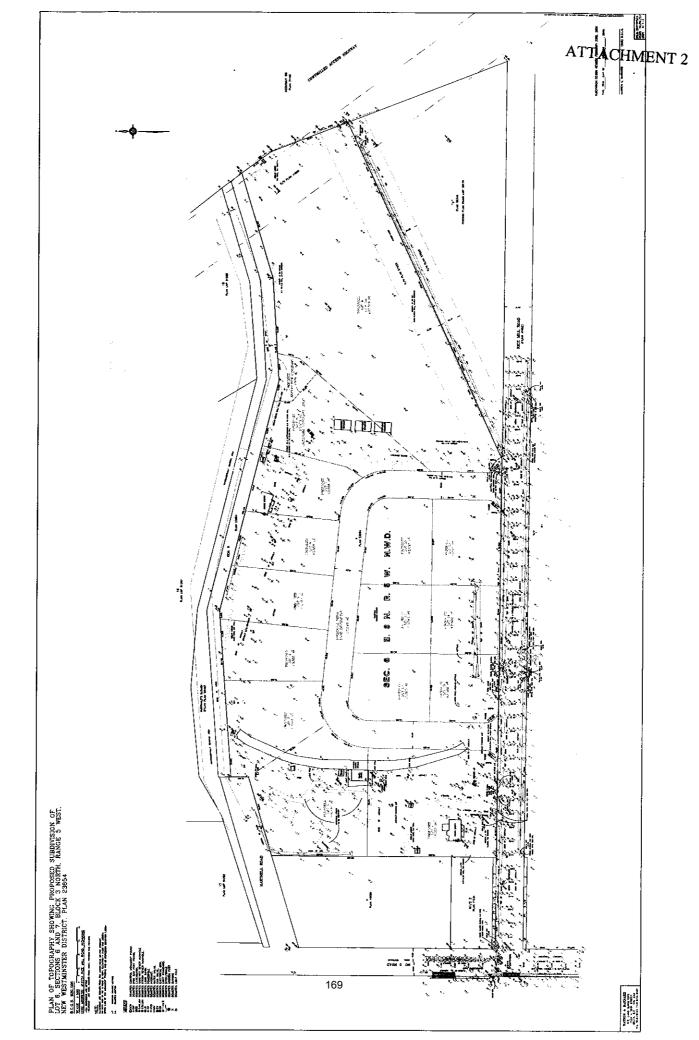


RZ 06-330060

Original Date: 06/25/07

Amended Date:

Note: Dimensions are in METRES





# Development Application Data Sheet

RZ 06-330060 Attachment 3

Address:

12751 Rice Mill Road

Applicant:

Watson and Barnard, BC Land Surveyors

Planning

Area(s): Shellmont Area

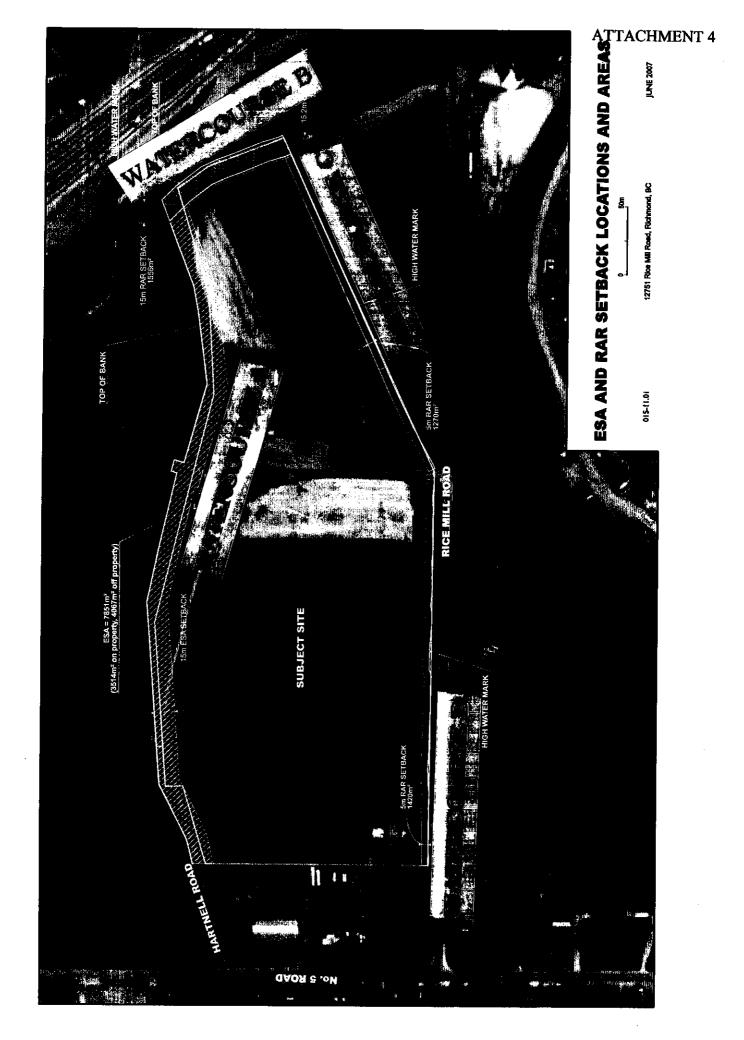
	Existing	Proposed
Owner:	457810 B.C. Ltd.	457810 B.C. Ltd.,
Site Size (m²):	82580 m²	
Land Uses:	AG1 (preservation of rural lands for farming and farm related uses)	Light Industrial District (I2)
OCP Designation:	Designation: Business and Industry	
Area Plan Designation:	Shellmont Area	Sheilmont Area
Zoning:	Agricultural District (AG1)	Light Industrial District (I2)
Number of Units:	1	approximately 15 lots
Other Designations:	ESA, RAR	address ESA and RAR requirements

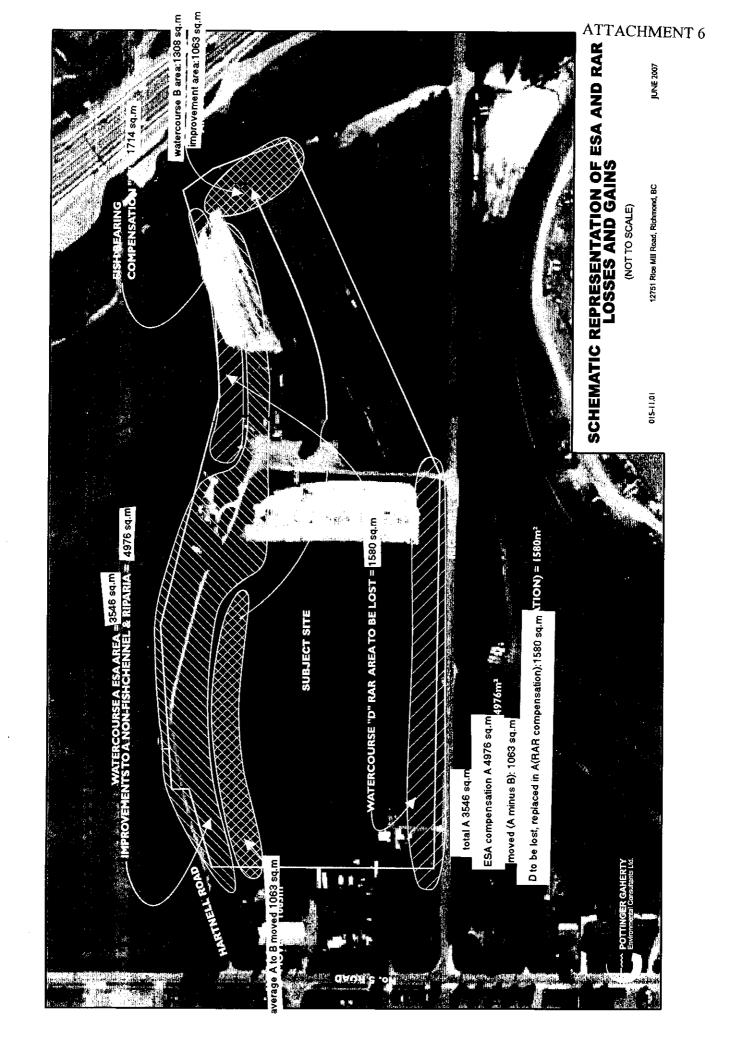
On Future Subdivided Lots	I2 Zone	Permitted	Variance
Floor Area Ratio:	Max. 1.0	1.0	none permitted
Lot Coverage – Building:	Max. 60%	60%	none
Lot Size (min. dimensions):	N/a	N/a	none
Road Setback:	6 m	6 m	none
Height (m):	N/a	N/a	none
Off-street Parking Spaces:	As required for light industry use by the bylaw: 1 space per 100 m² of gross leasable floor area of building	required for light industry use by the bylaw: 1 space per 100 m <sup>2</sup> of gross leasable floor area of building	none

Other: Tree replacement compensation required for loss of significant trees in good health.

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Pottinger Gaherty
Environmental Consultants Ltd.

1200 – 1185 West Georgia Street Vancouver, BC V6E 4E6 Tel 604.682-3707 Fax 604.682-3497 Toll Free 1-888-557-8848 www.pggroup.com

June 22, 2007 File: 0015-11.01

Via E-mail: DNikolic@richmond.ca (Original by Mail)

City of Richmond 6911 No. 3 Road Richmond, BC V6Y 2C1

Attention:

Diana Nikolic

Planner

RE: APPLICATION FOR TREE CUTTING AND REMOVAL PERMIT 12751 RICE MILL ROAD, RICHMOND, BC

#### INTRODUCTION

Pottinger Gaherty Environmental Consultants Ltd. (PGL) is pleased to provide this letter in support of Harry Hogler's application for Tree Cutting or Removal Permit, as per the City of Richmond's (City) Tree Protection Bylaw (No. 8057). The intent of this letter report is to satisfy City requirements, support the City's required authorization for tree removal and provide a preliminary site assessment for the purpose of tree retention.

Detailed information regarding this project is outlined in a previously submitted PGL report entitled Habitat Assessment and ESA Setback Recommendations submitted to the City in November 2006. Additional information relating to environmental issues associated with the Site (12751 Rice Mill Road, Richmond, BC), including additional revegetation and compensation strategies, is detailed in a Habitat Authorization Application prepared by PGL and submitted to the Canadian Department of Fisheries and Oceans (DFO) and copied to the City in March 2007.

#### **BACKGROUND**

The Site is a parcel of land approximately 20.4 acres (8.26ha) in total area and is described legally as "Lot 6, Sections 6 and 7, Block 3 North, Range 5 West, New Westminster District, Plan 23654." It is located in an area bounded by No. 5 Road to the west, Hartnell Road and MacDonald Slough to the north, Highway 99 to the northwest, Parcel "A," Plan 39179 to the southwest, and Rice Mill Road to the south.

Harry Hogler, the current property owner, is applying to the City to rezone the site from Agricultural District (AG1) to Business Park Industrial District (I3). Rezoning will allow for subdivision and sale of the property. In support of this rezoning application, the City has requested that an arborist report be prepared pursuant to its Tree Protection Bylaw.

### PRELIMINARY SITE ASSESSMENT

A preliminary site assessment was conducted on October 3, 2006. The majority of the site was cleared of forest cover and dominated by grass to facilitate its current use as a golf practice range. Most trees observed onsite were restricted to the outer perimeter and were dominated by three main species:

- western red cedar (Thuja plicata);
- black cottonwood (Populus balsamifera ssp. trichocarpa); and
- Douglas-fir (Pseudotsuga menziesii ssp. menziesii).

Detailed observations on terrestrial, riparian and aquatic habitat made during the October 2006 site assessment are provided in the *Habitat Assessment and ESA Setback* Recommendations and *Habitat Authorization Application* reports mentioned above. These reports have already been submitted to the City; however, additional copies can be provided upon your request.

### TREE INVENTORY

Subsequent fieldwork was conducted by PGL during April 2007. During this exercise, all trees ≥4.5m in height, ≥20cm diameter at breast height (dbh) and/or found within a City-designated environmentally sensitive area were identified. Trees were tagged with numerical identification tags and species, dbh and approximate heights were recorded. Tree locations were also noted at this time. A list of inventoried trees is provided in Table 1, and surveyed tree locations are provided in Figure 1.

It is assumed that all trees located along the southern limit of the property, adjacent to Rice Mill Road, are located on Harry Hogler's property. These trees were historically planted by Mr. Hogler and appear to be located within his property boundary.

A segment of cedar hedging along the northern property boundary (western half) was not surveyed as described above. The hedge is located in the proposed wetland setback area and will not be removed or impacted by the proposed development. The hedge consisted of 107 closely planted cedar trees in total and formed a hedge, as defined by the City's Tree Protection Bylaw. The average tree dbh was approximately 25cm.

No wildlife trees or raptor nests were observed in any of the trees inventoried. Some active and inactive/unconfirmed bird nests were observed onsite, including an active Rufous hummingbird (*Selasphorus rufus*) nest (Tree #967). The majority of nests observed were found in trees located in the proposed setback areas (e.g., Tree #108 and #109), and will not be lost or disturbed by development activities (e.g., tree removal/relocation).

## Tree Conditions and Potential Hazards

A total of 506 trees were inventoried on the site. The majority of trees are in good health (little to no signs of defects apparent in roots, canopy and main stem; lush living canopy; stable/normal stem patterns) or moderate health (noticeable defects in roots, canopy and/or

main stem). Common defects observed on moderate trees include girdling, topped canopies and wounds with evidence of decay on the main stem.

Douglas-fir trees represent the bulk of trees in moderate condition observed onsite. Almost all of these trees show signs of minor to significant girdling caused by staking equipment that was not removed after the trees were established (Photographs 1 and 2). In addition, a large percentage (approximately 55%) of the Douglas-fir trees are located under overhead transmission lines, and have been topped to accommodate this infrastructure (Photograph 3). The conditions of the site's Douglas-fir trees are noted as moderate, and appear stable under current circumstances. These trees should be monitored over time however, as their health will continue to decline. Risks associated with the Douglas-fir trees (e.g., potential for failure) will increase and must be mitigated on an ongoing basis considering the proposed land use.

A dead, topped Douglas-fir (Tree #185) was located in the southwest corner of the property. The tree is located in between the main entrance of the existing golf facility and the neighbouring single-family dwelling. Given the surrounding land use, this tree is a hazard and should be removed immediately.

Two mature black cottonwood trees (Tree #129 and #130) located along the northern limit of the property are in poor condition (significant defects and/or in decline). These two trees appear to have been historically joined by a third middle stem. The failure of the middle stem has compromised the base of Trees #129 and #130 and rendered both remaining stems vulnerable to significant decay (Photographs 4 and 5). Under current conditions, these trees do not pose a significant risk due to a lack of significant targets (e.g., buildings, heavily used land); however, risks will increase with the proposed development plans as the presence of potential targets will be introduced. Options to mitigate these risks include:

- Complete removal of both Trees #129 and #130;
- Wildlife both Trees #129 and #130 to a height that will remove targets from striking distance (e.g., a distance equal to or greater than one and a half tree height) under stem failure; or
- Modify the proposed environmental setback in this area to create an acceptable buffer between Trees #129 and #130 and their potential targets (e.g., distance between trees and buildings and/or heavily used areas such as parking lots and/or walkways greater than or equal to one and a half the existing tree height).

Several of the black cottonwood trees along the banks of the eastern watercourse have been impacted by beaver activity in the area. The bases of the main stem of Trees #952, #953, #954, and #956 have been debarked by beavers (Photograph 6). The trees are currently alive and appear stable; however, they will likely begin to decline over time. Future risks to the proposed development associated with these trees will be mitigated by the large setback (e.g., ≥1.5 x tree height) planned along the eastern limit of the Site.

## PROJECT IMPACTS AND MITIGATION

A total of 263 trees are to be retained in the proposed setback area. These trees must be conserved through the establishment of a tree protection barrier, as per the City's bylaw. The tree protection barrier must be erected at the drip line (e.g., distance between the outermost twigs of a tree's canopy and the centre point of the trunk), as a minimum around each tree designated for retention. The protection of proposed setbacks, however, should provide a buffer exceeding the drip line of retained trees. The protection barrier must also be a minimum of 1.2m tall and monitored throughout construction to ensure the integrity of the retained environment. A final tree assessment and subsequent monitoring program must be implemented post-construction to ensure tree integrity is maintained, assess the potential effects of construction activities on the retained trees and observe the long-term health of each retained trees.

Construction activities will require the removal and/or relocation of trees for access, grading and to facilitate general construction activities and development. Harry Hogler has volunteered to relocate a significant portion of trees requiring removal. A total of 243 trees will likely require removal, pending detailed development plans. Mr. Hogler will relocate as many trees as possible and transplant on an additional property in Richmond owned and developed by the proponent.

Although Mr. Hogler is willing to relocating as many trees as possible, the majority of candidates identified for removal/relocation are not ideal specimens for this process. Given the age, size and canopy characteristics, as well as their existing condition (e.g., moderate condition with visible defects), the success rate of transplantation is uncertain. Damage to these trees, both above and below ground, may be too significant for complete recovery. In this respect, Mr. Hogler has agreed to assume all relocated trees be considered as removals; therefore, compensation will be required, as per the City's bylaw.

Original landscape drawings for the wetland compensation works along the northern limit of the property incorporated approximately 29 Douglas-fir trees, which were to be relocated from other areas onsite (Figure 2). Trees #051 to #096 were identified as the *best* Douglas-fir candidates for this strategy. However, based on their size and age it is recommended that these trees not be relocated to the wetland. Alternatively, new native coniferous trees (e.g., suitable species for wetland ecosystems) should be planted in the wetland to increase success rates. This strategy may also allow for a greater number of young coniferous trees to be incorporated into the final wetland planting plans.

If trees designated for removal (e.g., dead or hazardous trees) and/or relocation are to be carried out in spring/early summer of any year, a bird nesting survey must be completed pursuant to Section 34 of BC's Wildlife Act. As per the Act, active bird nests must not be impacted or disturbed until the nest can be deemed inactive by a qualified professional (e.g., Registered Professional Biologist).

## TREE COMPENSATION PLAN

Tree replacement will follow the guidelines provided in Section 4.3 of the City's Tree Protection Bylaw and follow current BC Landscape Standards. All removed trees will be replaced at a ratio agreed upon by the City. Trees removed as hazard mitigation (e.g., Tree #185) will not require a replacement tree, as per Section 4.3.3 of the City's Tree Protection Bylaw.

It is our understanding that the City will likely require a tree replacement ratio of 2:1. It is estimated that 243 trees will be removed from the site, either be relocation or felling. Tree #185 is a hazard, should be removed and will not require a replacement tree, as per the City's bylaw (Section 4.3.3). Assuming the City will require a 2:1 ratio for all trees removed from the site, the proposed development will require a total tree compensation of 484 new trees.

A total of 116 of the 242 trees being removed are considered hedge trees (a row of three or more trees that, through growth and pruning, forms a continuous dense screen of vegetation from ground level that provides privacy, fencing, wind breaking, and/or boundary definition). For the loss of hedge trees the City may require a replacement ratio less than 2:1; however, this will be determined through consultation with the City.

To compensate for a portion of the trees being removed, the detailed wetland restoration and enhancement plans (Figure 2) currently prescribe a total of 37 new trees to be planted in this location. Tree prescriptions in the constructed wetland include:

- 14 sitka spruce (Picea sitchensis);
- 5 western white pine (*Pinus monticola*);
- 4 western hemlock (*Tsuga heterophylla*);
- 3 Pacific willow (Salix lucida ssp. lasiandra);
- 2 Pacific crab apple (Malus fusca);
- 2 black hawthorn (Crataegus douglasit);
- 2 red alder (Alnus rubra);
- 2 paper birch (Betula papyrifera)
- 2 black cottonwood (Populus balsamifera ssp. trichocarpa); and
- 1 Doulgas maple (Acer glabrum)

The space available onsite for new tree plantings is not sufficient to accommodate the entire compensation of 484 new trees. As noted above, 37 new trees are included in the wetland restoration and enhancement plans, leaving a total of 447 trees unaccounted for. Options available for tree compensation, which should be considered in combination, include:

- Increasing the number of native trees in the wetland restoration and enhancement plans (e.g., to account for the loss of planned relocation of 29 Douglas-fir trees);
- Developing revegetation plans for additional portions of the proposed setback area (e.g., along the eastern and south-eastern property limits), which would incorporate low-

growing native tree species suitable for growth under overhead distribution infrastructure, as consented by BC Hydro (Appendix 1); and

• Compensation tree planting in various offsite locations, as specified by the City.

## **CONCLUSION AND RECOMMENDATIONS**

The majority of the Douglas-fir trees (approximately 55%) have been topped and/or impacted by significant girdling caused by staking equipment that was left on after initial planting. Although most of these trees appear stable, their conditions will deteriorate with time and become hazardous. Topped and girdled Douglas-fir trees located in the setback areas should be monitored for hazards on an ongoing basis (e.g., semi-annually).

The constructed wetland designs call for the use of 29 relocated Douglas-fir trees. It is recommended that these trees be removed and the wetland restoration and enhancement plans incorporate a larger number of new, young and native coniferous tree species suitable for a wetland and/or high-bench floodplain habitat.

Given the large number of hedge trees to be removed (approximately 54% of all trees to be removed), we recommend a replacement ratio less than 2:1 be considered by the City. Areas for replacement plantings are restricted onsite by the proposed land use, expansion of Rice Mill Road required by the City and the implications of BC Hydro rights-of-way bordering the property along the southeast and eastern limits. All compensation ratios, however, will be determined by the City and a final total compensation number will be prescribed.

Tree #129 and #130 are located in the proposed setback area along the northern property boundary and should be retained to maintain the integrity and continuity of the riparian habitat. However, the development of buildings or other potential targets in and around these trees, outside of the setback area, may render both trees a hazard requiring removal. An adequate buffer zone (e.g., ≥1.5 x tree height) should be established around each tree to avoid the need for removal. Alternatively, these trees may be wildlifed to a height that will provide an adequate buffer between the trees and proposed development, while maintaining a portion of their habitat value.

A tree retention and monitoring program must be developed for all retained and newly planted trees. Adequate protection barriers must be erected around both retained and newly planted trees (at or beyond the retained tree's drip line) to protect the integrity of their environment. Use of land within protection buffer zones (e.g., between the protection barrier and tree) is strictly prohibited and must not be used in any way, including storage or stockpiling of materials. The integrity of tree protection zones and barriers must be monitored throughout the duration of development activities to ensure compliance and tree health. Both retained trees and newly planted trees must be monitored over a three-year period post-construction and post-planting, respectively. The monitoring plan will be implemented to assess the long-term impacts of development on retained trees, and ensure each new tree is successfully established. If a tree dies within the three-year monitoring period, a replacement program should be agreed upon between the proponent and the City.

For all newly planted trees on and offsite, it is imperative that all staking equipment (e.g., wire, hose and stakes) be removed after a period of two years. Ensuring the removal of this equipment once the tree has established will avoid future girdling and adverse long-term impacts to the tree.

We trust that this meets your needs. If you have any questions or require clarification, please contact Keven Goodearle or Leslie Beckmann at 604-895-7646 and 604-895-7629, respectively.

## POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD.

Per:

Keven Goodearle, B.Sc., R.P.Bio. ISA Certified Arborist (PN-6291A) Leslie M. Beckmann, B.Sc. (Hons.), M.A. Environmental Scientist

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KMG/LLB/stm

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Attachments: Table 1 – Tree Inventory

Figure 1 – Tree Retention Plan Figure 2 - Constructed Wetland

Photo Document

Appendix 1 – BC Hydro Consent Form

Harry Hogler cc:

Country Meadows Golf Course

Via Fax: 604-272-5830

Don Viner

Colliers International

Via E-mail: don.viner@colliers.com

Table



Ta~ #	Species	Name	dbh	Height		
Tag #	Scientific	Common	(cm)	(m)	Condition	Comments/Recommendations
001	Thuja plicata	western redcedar	18	7	Good	
002	Thuja plicata	western redcedar	18	7	Good	
003	Thuja plicata	western redeedar	22	7	Good	
004	Thuja plicata	western redcedar	19	6	Good	
005	Thuja plicata	western redeedar	17	6	Good	
006	Thuja plicata	western redcedar	16	7	C .	A .
000	1 mga piwara	western redeedar	4	4	Good	- 2 stems
007	Thuja plicata	western redeedar	22	7	C1	
007	100ja paraia	western redeedar	8	5	Good	
008	Thuja plicata	western redeedar	20	7	Good	
009	Thuja plicata	western redeedar	20	7	Good	
010	Thuja plicata	western redcedar	20	7	Good	
011	Thuja plicata	western redeedar	20	7	Good	
012	Thuja plicata	western redeedar	18	6	Good	
013	Thuja plicata	western redcedar	18	5	Moderate	- broken top
-	Thuja plicata	western redeedar	20	7	Good	
	Thuja plicata	western redcedar	20	6	Good	- small wound on main stem with minor decay
	Thuja plicata	western redeedar	18	7	Good	
	Thuja plicata	western redeedar	16	7	Good	
_	Thuja plicata	western redeedar	19	6	Good	
019	Thuja plicata	western redcedar	14	. 7	Good	
	Thuja plicata	western redcedar	11 13	7	Good	- double stem
	Thuja plicata	western redcedar	14	7	Good	
	Thuja plicata	western redeedar	14	7	Good	
	Thuja plicata	western redeedar	15	7	Good	
	Thuja plicata	western redeedar	12	7	Good	
_	Thuja plicata	western redcedar	11	7	Good	
	Thuja plicata	western redcedar	11	7	Good	
	Thuja plicata	western redeedar	13	7	Good	
028	Thuja plicata	western redcedar	13	7	Good	
029	I'huja plicata	western redcedar	12 13	7	Good	- double stem
030	Thuja plicata	western redeedar	18	7	Good	······································
031	Thuja plicata	western redeedar	11 13	7	Good	- double stem
032	l'huja plicata	western redcedar	15	7	Good	
033	Thuja plicata	western redeedar	16	7	Good	
034	Thuja plicata	western redcedar	13 8	7	Good	- double stem
035	Thuja plicata	western redeedar	12 9	7	Good	- double stem
036	Thuja plicata	western redeedar	16	7	Good	
	Thuja plicata	western redeedar	16	7	Good	
	Thuja plicata	western redeedar	15		Good	
	Thuja plicata	western redeedar	15	7	Good	
	Thuja plicata	western redcedar	17	7	Good	<del></del>
	seudotsuga menziesii	Douglas-fir	37		Good	***
	seudotsuga menziesii	Douglas-fir	36		Moderate -	historically topped; new leaders established
	Pseudotsuga menziesii	Douglas-fir	37		Good	The state of the s
	Picea pungens glauca	blue spruce	19		Moderate	
	Picea pungens glauca	blue spruce	13		Poor .	- small, in decline
	Picea pungens glauca	blue spruce	18		Moderate	
	licea pungens glanca	blue spruce	21		Moderate	

Tag #	Species Na		dbh	Height	Condition	Comments /Passamers desi
- ng 17	Scientific	Common	(cm)	(m)	Condition	Comments/Recommendations
048	Thuja plicata	western redeedar	18 10 10	8	Good	- 3 stems
049	Thuja plicata	western redeedar	20	8	Good	··
050	Thuja plicata	western redeedar	24	8	Good	
051	Pseudotsuga menziesii	Douglas-fir	33	15	Moderate	- stake and cables still on, girdling
052	Pseudotsuga menziesii	Douglas-fir	33	10	Good	- damage on driving range (west) side (scars from balls)
053	Pseudotsuga menziesii	Douglas-fir	34	15	Good	- damage on driving range (west) side (scars from balls)
054	Pseudotsuga menziesii	Douglas-fir	29	13	Good	- damage on driving range (west) side (scars from balls)
055	Pseudotsuga menziesii	Douglas-fir	23	11	Good	- damage on driving range (west) side (scars from balls)
056	Pseudotsuga menziesii	Douglas-fir	27	12	Good	- damage on driving range (west) side (scars from balls)
057	Pseudotsuga menziesii	Douglas-fir	29	12	Good	- damage on driving range (west) side (scars from balls)
058	Pseudotsuga menziesii	Douglas-fir	27	12	Good	- damage on driving range (west) side (scars from balls)
059	Pseudotsuga menziesii	Douglas-fir	39	14	Good	- damage on driving range (west) side (scars from balls)
060	Pseudotsuga menziesii	Douglas-fir	33	13	Good	- damage on driving range (west) side (scars from balls)
061	Pseudotsuga menziesii	Douglas-fir	41	14	Good	- damage on driving range (west) side (scars from balls)
062	Pseudotsuga menziesii	Douglas-fir	31	12	Good	- damage on driving range (west) side (scars from balls)
063	Pseudotsuga menziesii	Douglas-fir	32	12	Good	- damage on driving range (west) side (scars from balls)
064	Pseudotsuga menziesii	Douglas-fir	30	13	Good	- damage on driving range (west) side (scars from balls)
065	Pseudotsuga menziesii	Douglas-fir	30	13	Good	- damage on driving range (west) side (scars from balls)
066	Pseudotsuga menziesii	Douglas-fir	31	12	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga mengiesii	Douglas-fir	29	11	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesti	Douglas-fir	35	12	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	28	11	Good	- damage on driving range (west) side (scars from balls)
_	Pseudotsuga menziesii	Douglas-fir	32	10	Good	- damage on driving range (west) side (scars from balls)
071	Pseudotsuga menziesii	Douglas-fir	37	10	Good	- damage on driving range (west) side (scars from balls)
_	Pseudotsuga menziesii	Douglas-fir	28	11	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	32	8	Good	- damage on driving range (west) side (scars from balls)
074	Pseudotsuga menziesii	Douglas-fir	35	10	Good	- damage on driving range (west) side (scars from balls)
$\overline{}$	Pseudotsuga menziesii	Douglas-fir	30	8	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	22	8	Good	- damage on driving range (west) side (scars from balls)
077	Pseudotsuga menziesii	Douglas-fir	26	10	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	27		Good	- damage on driving range (west) side (scars from balls)
079	Pseudotsuga menziesii	Douglas-fir	21	6	Good	- lean with small new leader at base - damage on driving range (west) side (sears from balls)
080	Pseudotsuga menziesii	Douglas-fir	32	11	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	28	8	Good	- damage on driving range (west) side (sears from balls)
082	Pseudotsuya menziesii	Douglas-fir	33	10	Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	32	9	Good	- damage on driving range (west) side (scars from balls)
084	Pseudotsuga menziesii	Douglas-fir	31	10	Good	- damage on driving range (west) side (scars from balls)
085 .	Pseudotsuga menziesii	Douglas-fir	31			- damage on driving range (west) side (scars from balls)
086	Pseudotsuga menziesii	Douglas-fir	26		Good	- damage on driving range (west) side (scars from balls)
087	Pseudotsuga menziesii	Douglas-fir	28	9	Good	- damage on driving range (west) side (scars from balls)
088	Pseudotsuga menziesii	Douglas-fir	34	10	Good	- slight lean - damage on driving range (west) side (scars from balls)
089	Pseudotsuga menziesii	Douglas-fir	26	8	Moderate	- broken top, new leader - damage on driving range (west) side (scars from balls)
090 .	Pseudotsuga menziesii	Douglas-fir	26	9	Good	- damage on driving range (west) side (scars from balls)
	seudotsuga mengiesii	Douglas-fir	32		Good -	- damage on driving range (west) side (scars from balls)
$\overline{}$	seudotsuga mengiesii	Douglas-fir	20		Good -	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	26		Good -	- damage on driving range (west) side (scars from balls)
	Sendotsuga menziesii	Douglas-fir	32		Good	- damage on driving range (west) side (scars from balls)
_	Pseudotsuga menziesii	Douglas-fir	23		Good	- damage on driving range (west) side (scars from balls)
	Pseudotsuga menziesii	Douglas-fir	26		Good -	- damage on driving range (west) side (scars from balls)
$\overline{}$	Populus balsamifera ssp. trichocarpa	black cottonwood	32		Good	damage on our ing range (west) side (sears from balls)
~ * * * * * * * * * * * * * * * * * * *	opinio vanominjera cop. manotarpa	ower couounoun	JZ		Good	

Ta~ #	Species Name			Height		0 /0	
Tag #	Scientific	Common	(cm)	(m)	Condition	Comments/Recommendations	
099	Populus balsamifera ssp. trichocarpa	black cottonwood	33	10	Good	- Ivy on trunk	
100	Populus balsamifera ssp. trichocarpa	black cottonwood	87	22	Good	- minor amount of ivy growing on trunk	
			54	21			
101	Populus balsamifera ssp. trichocarpa	black cottonwood	30	10	Good	- 3 stems (lesser two joined at base)	
	-		23	11		- ivy growing on trunk	
102	Patroline I. d. military	1.11 1	54	20	0 1	- 2 stems, joined at base	
102	Populus balsamifera ssp. trichocarpa	black cottonwood	47	23	Good	- Ivy on trunk	
			113	25			
103	Populus balsamifera ssp. trichocarpa	L1l	28	15	l	- 2 main leaders, joined above dbh (4 stems)	
103	ropulus vaisamijera 88p. inchocarpa	black cottonwood	24	12	Good	- Ivy on trunk	
			23	12			
104	Populus balsamifera ssp. trichocarpa	black cottonwood	74	23	Good	- Ivy on trunk	
105	Populus balsamifera ssp. trichocarpa	black cottonwood	48	18	Good	- Ivy on trunk	
			52	25			
106	Populus balsamifera ssp. trichocarpa	black cottonwood	50	25	Good	- 2 stems joined approximately at dbh	
			23	10		- Ivy on trunk	
107	Populus balsamifera ssp. trichocarpa	black cottonwood	59	16	Good	- Ivy on trunk	
100	De de la de constante de la co					- bird nest in tree	
108	Populus balsamifera ssp. trichocarpa	black cottonwood	61	23	Good	- Ivy on trunk	
400	72 - 1 - 1 - 1 - 1 - 1 - 1					- bird nest in tree	
109	Populus balsamifera ssp. trichocarpa	black cottonwood	88	26	Good	- Ivy on trunk	
440	D : 1 1 20					- 4 stems joined at and above dbh	
110	Populus balsamifera ssp. trichocarpa	black cottonwood	140	28	Good	- Ivy on trunk	
111	Thuja plicata	western redeedar	19	7	Good	- hedge	
112	Thuja plicata	western redeedar	19	7	Good	- hedge	
113	Thuja plicata	western redeedar	17	7	Good	- hedge	
114	Thuja plicata	western redeedar	15	7	Good	- hedge	
115	Thuja plicata	western redcedar	18	7	Good	- hedge	
116	Thuja plicata	western redeedar	21	7	Good	- hedge	
117	Thuja plicata	western redeedar	20	7	Good	- hedge	
118	Thuja plicata	western redeedar	19	7	Good	- hedge	
119	Thuja plicata	western redeedar	16	7	Good	- hedge	
120	Thuja plicata	western redeedar	15	6	Good	- hedge	
121	TI	, ,				- hedge	
121	Thuja plicata	western redcedar	15	6	Moderate	- cables girdling tree	
122	Crataegus douglasii Lindl	black hawthorn	38	8	Good	- dbh taken on main stem, multi stemmed	
			75	30		- lesser stem leaning on main stem	
123	Populus balsamifera ssp. trichocarpa	black cottonwood	69	12	Good	- 2 stems, joined at dbh	
124	Populus balsamifera ssp. trichocarpa	black cottonwood	78	28	Good		
125	Populus balsamifera ssp. trichocarpa	black cottonwood	110	30	Good	· · · · · · · · · · · · · · · · · · ·	
			48	26			
126	Populus balsamifera ssp. trichocarpa	black cottonwood	18	6	Good	- 2 stems	
127 .	Populus balsamifera ssp. trichocarpa	black cottonwood	122	30	Good	- 3 stems joined 1m above dbh	
			66	25			
128	Populus balsamifera ssp. trichocarpa	black cottonwood	22	8	Good	- 2 stems, lesser stem growing out and up from base	
129	Populus balsamifera-ssp. trichocarpa	black cottonwood	76	30	Poor	- significant decay at base from failed stem; may have been historically attached to 130 - may represent a significant hazard, pending development designs	
					`	designs  - remove or wildlife tree, or increase no-development buffer zone to remove targets and reduce risks	

т	Species Name			Height	T	
Tag #	Seientific	Common	dbh (cm)	(m)	Condition	Comments/Recommendations
130	Populus balsamifera ssp. trichocarpa	black cottonwood	230	30	Poor (Hazard)	- significant decay at base from failed stem; may have been historically attached to 129 - 2 main stems; union above dbh - may represent a significant hazard, pending development designs - remove or wildlife tree, or increase no-development buffer zone to remove targets and reduce hazards
131	Populus balsamifera ssp. trichocarpa	black cottonwood	20	7	Moderate	- lesser stem growing from old stump
132	Populus balsamifera ssp. trichocarpa	black cottonwood	68	18	Good	- leaning over slough
133	Populus balsamifera ssp. trichocarpa	black cottonwood	158	30	Good	- 2 main stems; union above dbh
134	Populus balsamifera ssp. trichocarpa	black cottonwood	143	32	Good	
135	Populus balsamifera ssp. trichocarpa	black cottonwood	90	28	Good	- lean towards house; appears stable
136	Populus balsamifera ssp. trichocarpa	black cottonwood	89	30	Good	
137	Populus balsamifera ssp. trichocarpa	black cottonwood	63 45 33	27 30 10	Good	- 3 stems - leaning towards house; appears stable
138	Populus balsamifera ssp. trichocarpa	black cottonwood	170	32	Good	- 3 stems; union above dbh
	Populus balsamifera ssp. trichocarpa	black cottonwood	71 60	33	Good	- 2 stems, joined at dbh
140	Populus balsamifera ssp. trichocarpa	black cottonwood	34	15	Good	
	Populus balsamifera ssp. trichocarpa	black cottonwood	26	15	Good	····
142	Pseudotsuga menziesii	Douglas-fir	46	8	Moderate	- topped under transmission lines
143	Pseudotsuga menziesii	Douglas-fir	35	8	Moderate	- topped under transmission lines
	Pseudotsuga menziesii	Douglas-fir	50	8	Moderate	- topped under transmission lines
145	Pseudotsuga menziesii	Douglas-fir	38	8	Moderate	- topped under transmission lines
146	Pseudotsuga menziesii	Douglas-fir	50	8	Moderate	- girdling from staking cables - topped under transmission lines
147	Pseudotsuga menziesii	Douglas-fir	41	8	Moderate	- topped under transmission lines
148	Pseudotsuga menziesii	Douglas-fir	46	8	Moderate	- topped under transmission lines
149	Pseudotsuga menziesii	Douglas-fir	48	8	Moderate	- topped under transmission lines
150	Pseudotsuga menziesii	Douglas-fir	43	8	Moderate	- girdling from staking cables - topped under transmission lines
	Pseudotsuga menziesii	Douglas-fir	39	8	Moderate	- topped under transmission lines
152	Pseudotsuga menziesii	Douglas-fir	31	8	Moderate	- topped under transmission lines
	Pseudotsuga menziesii	Douglas-fir	32	8	Moderate	- girdling from staking cables - topped under transmission lines
154	Pseudotsuga menziesii	Douglas-fir	46	8	Moderate	- topped under transmission lines
155	Pseudotsuga menziesii	Douglas-fir	34	8	Moderate	- topped under transmission lines
156	Pseudotsuga menziesii	Douglas-fir	39	8	Moderate	- topped under transmission lines
157	Pseudotsuga menziesii	Douglas-fir	45	8	Moderate	- several broken branches hung up in tree - topped under transmission lines
158	Pseudotsuya menziesii -	Douglas-fir	33	8	Moderate	- girdling from staking cables - topped under transmission lines
159 .	Pseudotsuga menziesii	Douglas-fir	31	8	Moderate	- topped under transmission lines
160	Pseudotsuga menziesii	Douglas-fir	40		Poor	- large wound in stem with signs of decay - topped under transmission lines
161	Pseudotsuga menziesii	Douglas-fir	33	8	Moderate	- topped under transmission lines
162	Pseudotsuga menziesii	Douglas-fir	42		Moderate	- minor broken branches, significant girdling - lesser leader - topped under transmission lines
163	Pseudotsuga menziesii	Douglas-fir	33	8	Moderate	- topped under transmission lines
	Pseudotsuga menziesii	Douglas-fir	37		Moderate	- wound at base - topped under transmission lines
165	Pseudotsuga menziesii	Douglas-fir	36	8	Moderate	- topped under transmission lines
			35		Moderate	- topped under transmission lines

Tag #	Species Name			Height	0	0 /5
rag #	Scientific	Common	(cm)	(m)	Condition	Comments/Recommendations
167	Pseudotsuga menziesii	Douglas-fir	27	8	Moderate	- girdling from cables/staking
						- topped under transmission lines
168	Pseudotsuga menziesii	Douglas-fir	33	8	Moderate	- topped under transmission lines
169	Pseudotsuga menziesii	Douglas-fir	30	. 8	Moderate	- topped under transmission lines
170	Pseudotsuga menziesii	Douglas-fir	33	8	Moderate	- topped under transmission lines
171	Pseudotsuga menziesii	Douglas-fir	35	8	Moderate	- topped under transmission lines
172	Pseudotsuga menziesii	Douglas-fir	41	8	Moderate	- topped under transmission lines
173	Pseudotsuga menziesii	Douglas-fir	35	8	Moderate	- girdling from staking cables - topped under transmission lines
174	Pseudotsuga menziesii	Douglas-fir	31	8	Moderate	- girdling from staking cables - topped under transmission lines
175	Pseudotsuga menziesii	Douglas-fir	34	8	Moderate	- topped under transmission lines
176	Pseudotsuga menziesii	Douglas-fir	37	8	Moderate	- girdling from staking cables - topped under transmission lines
177	Pseudotsuga menziesii	Douglas-fir	39	8	Moderate	- topped under transmission lines
170	D. 14			_		- girdling from staking cables
178	Pseudotsuga menziesii	Douglas-fir	33	8	Moderate	- topped under transmission lines
179	Pseudotsuga menziesii	Douglas-fir	49	8	Moderate	- girdling from staking cables
180	Pseudotsuga menziesii	Douglas-fir	35	12	N ( d to	- topped under transmission lines
	Thuja plicata	western redeedar	13	8	Moderate	- topped under transmission lines
	Pseudotsuga menziesii	Douglas-fir	35	15	Good Good	· · · · · · · · · · · · · · · · · · ·
	Thuja plicata	western redcedar	10	6		
	Pseudotsuga menziesii	Douglas-fir	29	11	Good Good	<u> </u>
	Pseudotsuga menziesii	Douglas-fir	37	8	Dead (Hazard)	- topped - should be removed to mitigate associated hazards
186	Picea pungens glauca	blue spruce	23	8	Moderate	- topped
	Pseudotsuga menziesii	Douglas-fir	40	8	Moderate	- topped - broken branch in canopy
188	Pseudotsuga menziesii	Douglas-fir	33	8	Moderate	- topped
	Pseudotsuya menziesii	Douglas-fir	30	8	Moderate	- topped
	Pseudotsuga menziesii	Douglas-fir	39	8	Moderate	- topped
191	Betula papyrifera	paper birch	10 14 16 19 10	5	Good	- 5 stems
192	Pseudotsuga menziesii	Douglas-fir	39	15	Good	<del></del>
_	Pseudotsuga menziesii	Douglas-fir	30	15	Good	
	Pseudotsuga menziesii	Douglas-fir	31	15	Good	
_	Pseudotsuga menziesii	Douglas-fir	34	16	Good	
-	Pseudotsuga menziesii	Douglas-fir	15	10	Good	7.4
	Pseudotsuga menziesii	Douglas-fir	17	12	Good	
198	Thuja plicata	western redcedar	8	4	Good	
199	seudotsuga menziesii	Douglas-fir	34	15	Good	
200	Betula papyrifera	paper birch	15 15	13	Good	- 2 main stems
201	Thuja plicata	western redeedar	14	12	Good	
	Thuja plicata	western redcedar	15	12	Good	······································
$\neg$	Seudotsuga menziesii	Douglas-fir	32		Moderate	- girdling from staking cables - slight lean
204	Thuja plicata	western redcedar	23	12	Good	0
205	Thnja plicata	western redeedar	20	12	Good	- part of a headge, alternating with lesser western redeeds (dbh ~5cm, height ~4-5m)
206	Thuja plicata	western redcedar	23	12	Good	- part of a headge, alternating with lesser western redceds (dbh ~5cm, height ~4-5m)

т. 4	Species Name	<del></del>	dbh	Height	1	
Tag #	Scientific	Common	(cm)	(m)	Condition	Comments/Recommendations
207	Thuja plicata	western redeedar	20	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
208	Thuja plicata	western redcedar	20	12	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
209	Thuja plicata	western redeedar	12	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
210	Thuja plicata	western redeedar	20	12	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
211	Thuju plicata	western redcedar	20	12	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
212	Thuja plicata	western redeedar	20	12	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
213	Thuja plicata	western redcedar	18	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
214	Thuja plicata	western redeedar	17	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
215	Thuja plicata	western redeedar	20	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
216	Thuja plicata	western redcedar	20	12	Good	- part of a headge, alternating with lesser western redecdars (dbh ~5cm, height ~4-5m)
217	Thuja plicata	western redeedar	16 10	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m) - 2 stems
218	Thuja plicata	western redeedar	20	12	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
219	Thuja plicata	western redcedar	20	11	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
220	Thuja plicata	western redcedar	20	11	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
221	Tbuja plicata	western redcedar	20	11	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
222	Thuja plicata	western redeedar	20	11	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
223	Thuja plicata	western redeedar	20	11	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
224	Thuja plicata	western redeedar	20	11	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
225	Thuja plicata	western redcedar	20	11	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
226	Thuja plicata	western redeedar	18	10	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
227	Thuja plicata	western redeedar	18	10	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
228	Thuja plicata	western redcedar	18	10	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
229	Thuja plicata	western redcedar	18	10	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
230	Thuja plicata	western redcedar	18	10		part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
231	Thuja plicata	western redcedar	18	10	Good	part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
232	Thuja plicata	western redeedar	14 10	10	Good (	part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)  2 stems

Tag#	Species Name			Height	C1111	Comments / Bossess - Issis as
1 ag #	Scientific	Common	(cm)	(m)	Condition	Comments/Recommendations
233	Thuju plicata	western redeedar	15 12	10	Good	<ul> <li>part of a headge, alternating with lesser western redeedars</li> <li>(dbh ~5cm, height ~4-5m)</li> <li>2 stems</li> </ul>
234	Thuja plicata	western redcedar	18	10	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
235	Thuja plicata	western redcedar	10	8	Good	<ul> <li>part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)</li> </ul>
236	Thuja plicata	western redcedar	10	8	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
237	Thuja plicata	western redcedar	10	8	Good	<ul> <li>part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)</li> </ul>
238	Thuja plicata	western redcedar	10	8	Good	<ul> <li>part of a headge, alternating with lesser western redecdars (dbh ~5cm, height ~4-5m)</li> </ul>
239	Thuja plicata	western redcedar	12 8	6	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> <li>2 stems</li> </ul>
240	Thuja plicata	western redcedar	12	6	Good .	<ul> <li>part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)</li> </ul>
241	Thuja plicata	western redcedar	16	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
242	Thuja plicata	western redcedar	10 10	8	Good	<ul> <li>part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)</li> </ul>
243	Thuja plicata	western redcedar	16 4	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> <li>2 stems</li> </ul>
244	Thuja plicata	western redcedar	16	8	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
245	Thuja plicata	western redcedar	16	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
246	Thuja plicata	western redcedar	14	6	Good	<ul> <li>part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)</li> <li>wound at base of stem</li> </ul>
247	Thuja plicata	western redeedar	16	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> <li>wound in stem</li> </ul>
248	Thuja plicata	western redcedar	16	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
249	Thuja plicata	western redeedar	14	8	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
250	Thuja plicata	western redcedar	16	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
336	Thuja plicata	western redcedar	10	6		<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
337	Thuja plicata	western redcedar	15	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
338	Thuja plicata	western redcedar	16	8	Good	<ul> <li>part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)</li> </ul>
339	Thuja plicata	western redcedar	16	8	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
340	Thuja plicata	western redcedar	16	8	Good	- part of a headge, alternating with lesser western redeedars (dbh ~5cm, height ~4-5m)
	Thuja plicata	western redcedar	16	8	Good	- part of a headge, alternating with lesser western redcedars (dbh ~5cm, height ~4-5m)
	Thuja plicata	western redcedar	15	8	Good	
343	Thuja plicata	western redcedar	15	8	Good	

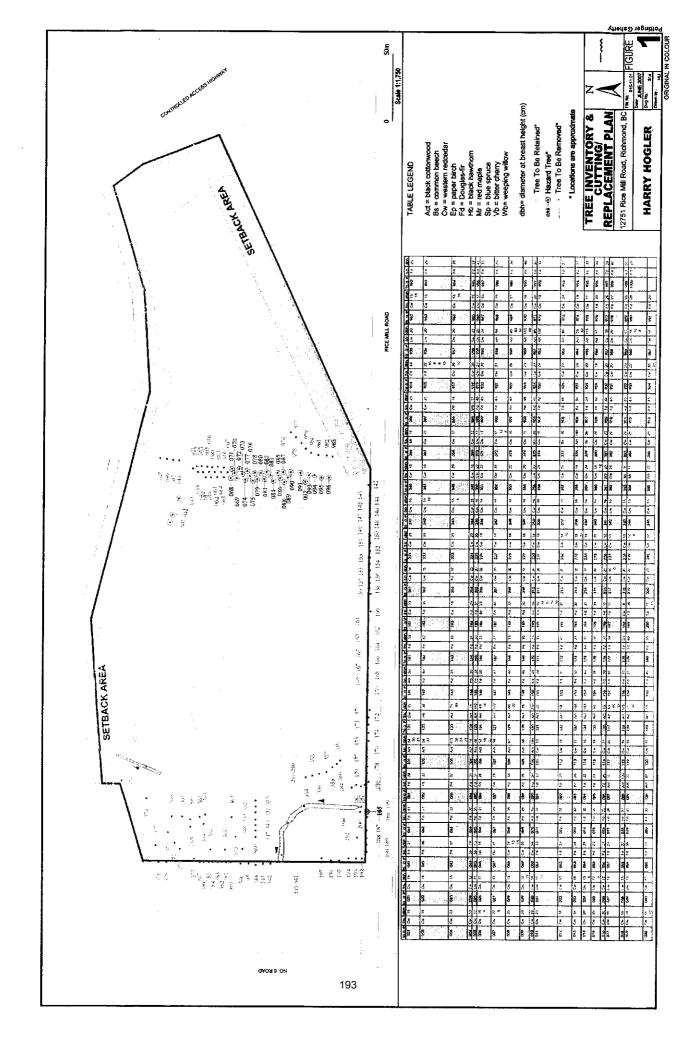
Tag#	Species Name			Height		
	Scientific	Common	dbh (cm)	(m)	Condition	Comments/Recommendations
344	Thuja plicata	western redeedar	15	8	Poor	- girdling with rope, dead top
					1 001	- significant wound in stem
345	Thuja plicata	western redeedar	15	- 8	Moderate	- girdling by rope and wire/cable
346	Thuja plicata	western redeedar	15	8	Good	
347	Thuja plicata	western redeedar	15	8	Good	
348 349	Thuja plicata	western redcedar	20	8	Good	
350	Thuja plicata Thuja plicata	western redeedar	18	8	Good	
351	Thuja plicata	western redcedar	22 22	10 10	Good	<u> </u>
352	Thuja plicata	western redeedar western redeedar	22	8	Good	<u> </u>
353	Thuja plicata	western redeedar	22	8	Good Good	<u> </u>
354	Thuja plicata	western redeedar	20	7	Poor	- in decline
355	Thuja plicata	western redeedar	22	12	Good	- in decime
356	Thuja plicata	western redeedar	24	12	Good	
357	Thuja plicata	western redeedar	22	11	Good	***
358	Thuja plicata	western redeedar	14	8	Poor	- in decline
359	Thuja plicata	western redcedar	24	12	Good	III decilie
360	Thuja plicata	western redcedar	10	11	Good	- 2 stems, joined at the base
361	Salix babylonica	weeping willow	25	6	Good	2 overlag joined at the blace
362	Salix babylonica	weeping willow	24	6	Good	·
363	Acer rubrum	red maple	9	4	Good	
364	Acer rubrum	red maple	11	5	Good	······································
365	Salix babylonica	weeping willow	27	6	Good	
366	Acer rubrum	red maple	11	5	Good	
367	Thuja plicata	western redcedar	21	6	Good	
368	Thuja plicata	western redeedar	13	5	Good	
369	Thuja plicata	western redeedar	12	5	Good	
	Thuja plicata	western redeedar	17	6	Good	
371	Thuja plicata	western redeedar	17	6.5	Good	
372	Thuja plicata	western redeedar	10	7	Good	
	Thuja plicata	western redeedar	15	5	Good	
374	Thuja plicata	western redeedar	11	4.5	Good	
	Salix babylonica	weeping willow	20	6	Good	
-	Thuja plicata	western redeedar	18	6	Good	
	Fagus sylvatica	common beech	10	. 5	Good	
	Populus balsamifera ssp. trichocarpa	black cottonwood	160	30	Good	
379	Prunus emarginata	bitter cherry	38	12	Good	- adjacent to 378
380	Thuja plicata	western redcedar	24	8	Good	- along west fence line (smaller cedar hedge in front <4m tall)
381	Thuja plicata	western redcedar	23	8	Good	<ul> <li>along west fence line (smaller cedar hedge in front &lt;4m tall)</li> </ul>
382	Thuja plicata	western redeedar	20	8	Good	<ul> <li>along west fence line (smaller cedar hedge in front &lt;4m tall)</li> </ul>
383	Thuja plicata	western redcedar	26	9	Good	- along west fence line (smaller cedar hedge in front <4m tall)
384	Thuja plicata	western redcedar	25	10	Good	- along west fence line (smaller cedar hedge in front <4m tall)
385	Thuja plicata	western redeedar	25	10	Good	- along west fence line (smaller cedar hedge in front <4m tall)
386	Thuja plicata	western redeedar	23	10	Good	- along west fence line (smaller cedar hedge in front <4m tall)
387	Thija plicata	western redcedar	21	10	Good	- along west fence line (smaller cedar hedge in front <4m tall)
866	Salix babylonica	weeping willow	14	5	Good	
369	Salix babylonica	weeping willow	17	5	Good	
898	Pseudotsuga menziesii	Douglas-fir	48		Moderate	topped and girdled

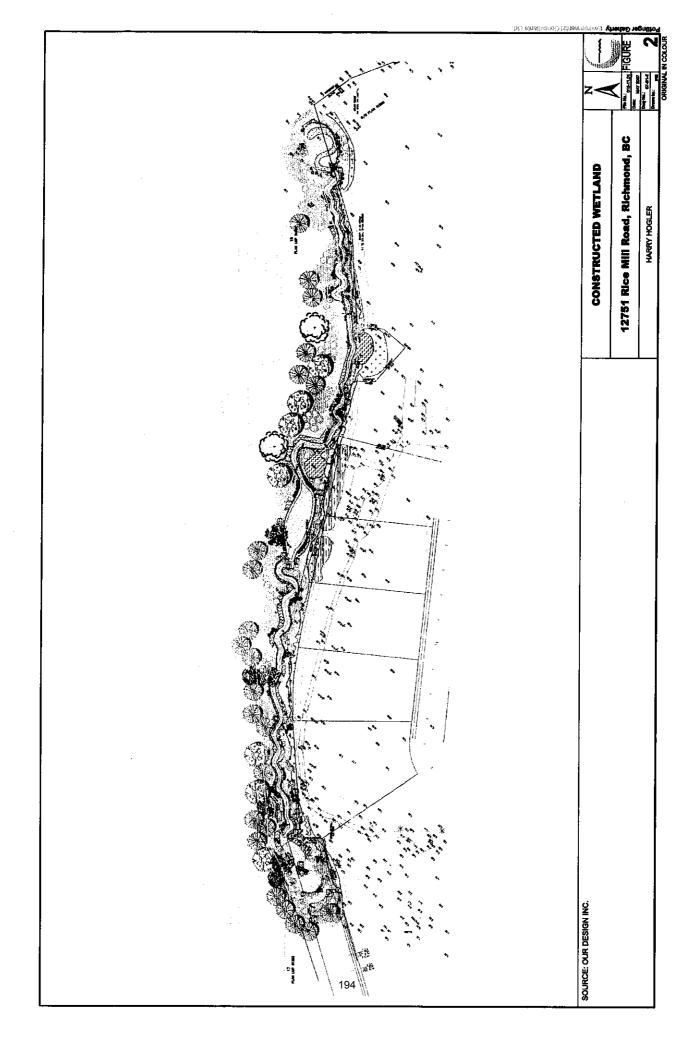
T 4	Species Name			Height	la	T
Tag #	Scientific	Common	dbh (cm)	(m)	Condition	Comments/Recommendations
899	Pseudotsuga menziesii	Douglas-fir	45	8	Moderate	- topped and girdled
900	Pseudotsuga menziesii	Douglas-fir	43	8	Moderate	- topped and girdled
901	Pseudotsuga menziesii	Douglas-fir	47	8	Moderate	- topped and girdled
902	Pseudotsuga menziesii	Douglas-fir	46	8	Moderate	- topped and girdled
903	Pseudotsuga menziesii	Douglas-fir	45	8	Moderate	- topped and girdled
904	Pseudotsuga menziesii	Douglas-fir	42	8	Moderate	- topped and girdled
905	Pseudotsuga menziesii	Douglas-fir	46	. 8	Moderate	- topped and girdled
906	Pseudotsuga menziesii	Douglas-fir	34	8	Moderate	- topped and girdled
907	Pseudotsuga menziesii	Douglas-fir	39	8	Moderate	- topped and girdled
908	Pseudotsuga menziesii	Douglas-fir	42	8	Moderate	- topped and girdled
909	Pseudotsuga menziesii	Douglas-fir	44	- 8	Moderate	- topped and girdled
910	Pseudotsuga menziesii	Douglas-fir	43	8	Moderate	- topped and girdled
911	Pseudotsuga menziesii	Douglas-fir	45	8	Moderate	- topped and girdled
912	Pseudotsuga menziesii	Douglas-fir	43	. 8	Moderate	- topped and girdled
913	Pseudotsuga menziesii	Douglas-fir	45	8	Moderate	- topped and girdled
914	Psendotsuga menziesii	Douglas-fir	44	8	Moderate	- topped and girdled
			22			***
		1	10	10		- topped and girdled
915	Pseudotsuga menziesii	Douglas-fir	8	10	Poor	- historical failure in main stem; lesser stems (x4) are
			6			growing from failed main stem
			15	J		
017		, ,	20	9		7
917	Thuja plicata	western redcedar	10	8	Good	
918	Thuja plicata	western redeedar	20	9	Good	<del>-</del> ·
919	Thuja plicata	western redcedar	20	9	Good	*****
920	Thuja plicata	western redcedar	20	9	Good	·
921	Thuja plicata	western redcedar	25	9	Good	
922	Thuja plicata	western redeedar	20	9	Good	
923	Thuja plicata	western redcedar	23	9	Good	
924	Thuja plicata	western redeedar	20	9	Good	
925	Thuja plicata	western redcedar	24	9	Good	, <del>, , , , , , , , , , , , , , , , , , </del>
926	Thuja plicata	western redcedar	20	9	Good	
927	Thuja plicata	western redeedar	20	9	Good	
928	Thuja plicata	western redcedar	20	9	Good	
929	Thuja plicata	western redcedar	18	9	Good	·
930	Thuja plicata	western redcedar	20	9	Good	· · · · · · · · · · · · · · · · · · ·
931	Thuja plicata	western redeedar	20	9	Good	
932	Thuja plicata	western redeedar	20	9	Good	***
933	Thuja plicata	western redcedar	22	9	Good	-
934	Thuja plicata	western redeedar	20 20	9	Good	
935	Thuja plicata	western redeedar	20	9	Good	
936	Thuja plicata	western redeedar	20	9	Good	
937	Thuja plicata	western redeedar	20	9	Good	
	Thuja plicata	western redcedar	23	9	Good	——————————————————————————————————————
939	Thuja plicata	western redeedar	20		Good	
940	Thuja plicata	western redcedar	24	9	Good	
948	Populus balsamifera ssp. trichocarpa	black cottonwood	84		Good	
949	Populus balsamifera ssp. trichocarpa	black cottonwood	85 83			- 3 stems
		- COMMINION	80			- 7 010110
950	Populus balsamifera ssp. trichocarpa	black cottonwood	110 90	28 24	Good	- 2 stems
	Populus balsamifera ssp. trichocarpa	black cottonwood	85		Good	
952	Populus balsamifera ssp. trichocarpa	black cottonwood	100	25	Moderate -	evidence of beaver activity & damage at base
953	Populus balsamifera ssp. trichocarpa	black cottonwood	86		Moderate -	evidence of beaver activity & damage at base

т	Species Name			Height		
Tag#	Scientific	Common	dbh (cm)	(m)	Condition	Comments/Recommendations
954	Populus balsamifera ssp. trichocarpa	black cottonwood	75 62	24	Moderate	- evidence of beaver activity & damage at base
955	Populus balsamifera ssp. trichocarpa	black cottonwood	115	25	Good	
956	Populus balsamifera ssp. trichocarpa	black cottonwood	91	25	Moderate	- evidence of beaver activity & damage at base
957	Thuja plicata	western redeedar	18	9	Moderate	- small wound on stem
958	Thuja plicata	western redeedar	20	9	Good	
959	Thuja plicata	western redcedar	17	6	Good	- wound at base of tree, minor decay
960	Thuja plicata	western redeedar	14 10 8	6	Good	- 3 stems
961	Thuja plicata	western redecdar	16	6	Good	
962	Thuja plicata	western redcedar	15 18	6	Good	- 2 stems
963	Thuja plicata	western redeedar	15	7	Good	
964	Thuja plicata	western redeedar	13 16	7	Good	- 2 stems
965	Thuja plicata	western redeedar	15	6	Good	****
	Thuja plicata	western redeedar	17	6	Good	
967	Thuja plicata	western redeedar	15	6	Good	
	Thuja plicata	western redeedar	15	6	Good	
	Thuja plicata	western redcedar	17	6	Good	
	Thuja plicata	western redeedar	16	6	Good	
	Thuja plicata	western redcedar	22	7	Moderate	- wound on main stem with signs of decay
972	Thuja plicata	western redeedar	19	8	Good	and the state of t
	Thuja plicata	western redeedar	20	8	Good	
974	Thuja plicata	western redeedar	19	7	Good	
975	Thuja plicata	western redeedar	17	7	Good	
976	Pseudotsuga menziesii	Douglas-fir	20	8	Good	
977	Pseudotsuga menziesii	Douglas-fir	26	10	Good	
978	Pseudotsuga menziesii	Douglas-fir	27	11	Good	··· /::
979	Pseudotsuga menziesii	Douglas-fir	33	12	Good	
	Pseudotsuga menziesii	Douglas-fir	28	14	Good	
	Pseudotsuga menziesii	Douglas-fir	29	13	Good	
	Pseudotsuga menziesii	Douglas-fir	25	12	Good	<del>, , , , , , , , , , , , , , , , , , , </del>
983	Pseudotsuga menziesii	Douglas-fir	26	13	Good	
984	Pseudotsuya menziesii	Douglas-fir	28	14	Good	
985 .	Pseudotsuga menziesii	Douglas-fir	39	13	Good	
986	Pseudotsuga menziesii	Douglas-fir	41	14	Moderate	- topped and girdled
987	Pseudotsuga menziesii	Douglas-fir	35	8	Moderate	- topped and girdled
988	Pseudotsuga menziesii	Douglas-fir	29	9	Moderate	- topped and girdled
	Pseudotsuga menziesii	Douglas-fir	39	8	Moderate	- topped and girdled
990	Pseudotsuga menziesii	Douglas-fir	40	8	Moderate	- topped and girdled
991	Pseudotsuga menziesii	Douglas-fir	38	8	Moderate	- topped and girdled
992	Pseudotsuga menziesii	Douglas-fir	38	8	Moderate	- topped and girdled
	Pseudotsuga menziesii	Douglas-fir	31		Moderate	- topped and girdled
	Pseudotsuga menziesii	Douglas-fir	37		Moderate	- topped and girdled
	Pseudotsuga menziesii	Douglas-fir	33		Moderate	- topped and girdled
-	Pseudotsuga menziesii	Douglas-fir	34		Moderate	- topped and girdled
997	Pseudotsuga menziesii	Douglas-fir	39		Moderate	- topped and girdled
998		Douglas-fir	46		Moderate	- topped and girdled
	Seudotsuga menziesii	Douglas-fir	37	8	Moderate	topped and girdled
_	<del></del>	Douglas-fir	39		Moderate	- topped and girdled

**Figures** 







**Photos** 



File: 0015-11.01



## Photograph 1:

Example of girdling by staking equipment (Tree #160).



## Photograph 2:

Additional example of girdling by staking equipment (Tree #185).



#### Photograph 3:

Topped Douglas-fir trees under transmission lines, looking southeast.



File: 0015-11.01



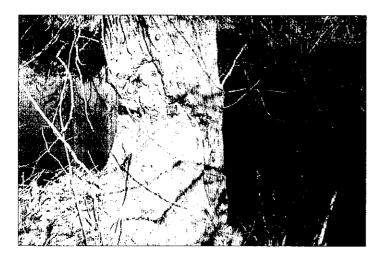
## Photograph 4:

Wound and subsequent decay at base of Tree #129.



## Photograph 5:

Wound and subsequent decay at base of Tree #130.



## Photograph 6:

Evidence of beaver activity on Tree #953.



Appendix 1 – BC Hydro Consent Form





reliable power, at low cost, for generations

January 29, 2007

Assignment No.:

File No:

9771 441-1402.0(2)~18 &

489-1402.0(1)-2

Circuit/Str.:

2L58/ 3-03 & 3-04

Leslie Beckmann Pottinger Gaherty Environmental Consultants Ltd. 1200-1185 West Georgia Street Vancouver, B.C. V6E 4E6

Proposal: Stormwater Slough within BC Hydro Transmission Right of Way Location: 12751 Rice Mill Rd., Richmond, B.C.

Please ensure that **both** sides of the enclosed **consent** are thoroughly read and understood. This consent must be validated at an on-site meeting with a B.C. Hydro representative prior to commencing construction activities on the right of way. This consent is valid for the dates shown. Should the activities not be completed by the expiry date, you must receive an extension to this consent, in writing, from B.C. Hydro.

#### TO HAVE THE CONSENT VALIDATED:

- CALL <u>Brian Kilvert</u>, Field Operations Manager, Lower Mainland Transmission at 604-590-7651 or 604-590-7644.
- Call a minimum of 3 working days prior to commencing work on the right of way and a B.C. Hydro Representative will be dispatched as soon as one is available.
- <u>DO NOT PROCEED</u> until a BC Hydro Representative has met with you or your representative on site and validated this consent by signing the bottom of the back page of the Right of Way Consent form.
- The applicant/contractor must ensure that a validated consent is at the job location at all times.

If you have any questions regarding this consent, please call me at 604-590-7679.

Yours truly:

Tara Tauscher

**Property Coordinator** 

Property Rights Management

/attachments

c: B. Kilvert / D. Brodie

# **RIGHT OF WAY CONSENT**

# BChydro @

Date Issued (Y/M/D)	Expiry Date (Y/M/D)	Region:	File No.:		7	Assignment No.:
2007/01/26	2008/01/26	LM	489-1402.0(1 414-1402.0(2			9771
Applicant						
Name:				Telephon	e No.:	Contact Name:
457810 B.C. Ltd.						
Address:						Postal Code:
Engineering Consultan	t/Agent (if Applicable)		Telephone No	.:	Contact N	ame:
Pottinger Gaherty	/ Environmental Co	nsultants	604-682-37	07	Leslie B	Beckmann
Address:			<del></del>			Postal Code:
1200 – 1185 West	Vancouver, B.C.					V6E 4E6
Subject to the terms	and conditions attached/	described, co	nsent is provide	d to const	ruct the foll	lowing facilities within, or
_	ic transmission right of			);		
Stormwater Sloug	gh within Transmiss	sion Right o	of Way			
Drawing No.: 22072	FINAL and 000406-	A-2 concept	t Model (1)			
	f Way Details				1 4 = 10 1 1 1	
Circuit No.: 2L58		Structu	re(s): <b>3-03 &amp;</b>	3-04		LIMITS OF APPROACH: Persons & equipment must
not come within 4.5 t Voltage: 230kv of the electrical cond				not come within 4.5 metres of the electrical conductor wire at any time.		
	compliance with all ap				gulations,	
	9 of the Occupationa	I Health and	d Safety Regu	lations.		
Location:						
12751 Rice Mill R	d, Richmond					
Right of Way Specific Plan No.:		arge No.:			Legal Des	pariation
•	1	aige No  21019 & R[	3425665	"		•
41866 & 57622	[1]	12 10 19 Q KL	XD 120000		Lot 6, Sec 6 & 7, Block 3, North	
					Range	5, West New Westminster
					District,	Plan 23654
Special Conditions (A	lso Refer to "Terms and	Conditions" o	on reverse of thi	s page.)		
2. You will compl this consent.	•	within 10.0 r	meters of any ched to this co	B.C. Hyd onsent. T	ro structu he specia	res. al conditions forms part of
Inspection and Notific BC Hydro Office:		ld Operations N	Manager (Name):		Telephon	e No.:
Lower Mainland Tr		ian Kilvert			604-590	!
Prior to the start of any construction or excavation work, in order that BC Hydro may have a Representative available to safeguard its facilities it shall be the responsibility of the Applicant or his Agent to provide BC Hydro with a minimum of three (3) days notice, excluding Saturdays, Sundays and holidays. The Applicant may, at the discretion of BC Hydro, be charged for such inspection costs.						
A COPY OF THIS CON	ISENT AND RELATED DE	KAWINGS MU	SIBE ALIHE J	OR SHE W	GOMMEN	ICEMENT OF ANY WORK.
BC Hydra Consent					· · · · · · · · · · · · · · · · · · ·	
talix	H/U/				Ja	nuary 26, 2007
	Tara Tauscher Date Property Coordinator, Property Rights Management					
Property Coo	iomator, Property Rights i	vianayement				

# CONDITIONS FOR ALL COMPATIBLE USES OF B.C. HYDRO RIGHTS OF WAY

- 1. This consent applies to B.C. Hydro's interest only. You must also obtain permits and consents from all other parties (landowners, regulators, etc.) with an interest or jurisdiction and comply with any applicable laws and regulations.
- 2. These requirements are to be read together with and do not diminish B.C. Hydro's Statutory Right of Way Agreement registered on the land.
- 3. B.C. Hydro shall not be responsible for any damage, interference or hindrance to your activities, equipment or Proposal arising out of B.C. Hydro's activities anywhere on the right of way. You will indemnify B.C. Hydro, its agents, employees and contractors against any liability, action, damage, cost or loss to property or persons resulting from any activity or any occurrence caused by you or those for whom you are responsible at law. This indemnity will survive the expiry or termination of this consent and any other agreement entered into pursuant to this consent.
- **4.** No part of this Proposal may be changed without the prior written consent of B.C. Hydro. Uses or installations other than those contemplated in this consent require additional written consent from B.C. Hydro.
- **5.** B.C. Hydro can terminate its consent if your employees, agents or contractors fail to comply with these requirements.
- 6. You acknowledge that minor levels of electrical induction may be experienced due to the proximity of electrical lines and will not hold B.C. Hydro responsible.
- 7. The following are not permitted in the right of way:
  - log decking
- · stock piling of excavated, building or other material
- blasting
- building or portions of buildings, including foundations and eaves
  storage or handling of flammable or explosive material
- burning
- fuelling of vehicles and equipment
- 8. B.C. Hydro personnel must be able to access the right of way at all times. Interruption of your activities and operations may be necessary for electrical line maintenance or construction.
- .9. Other than those specifically approved in this letter, there must be no changes in ground elevations of more than 0.5 meters from the original grade without the prior written consent of B.C. Hydro.
- 10. There must be no deterioration of drainage patterns or soil stability within the right of way.
- 11. Upon completion of construction, the right of way must be restored as closely as is practically possible to the original condition or better at your expense.
- **12.** Landscaping within the right of way must be restricted to low-growing trees, shrubs and plants <u>not</u> exceeding 3.0 meters in height at maturity.
- 13. Safe working procedures will be explained by the B.C. Hydro Representative on site and if regulations require, a Worksafebc form 30M33 (governing equipment activity) will be completed.

Follow-up Required: WCB 30M33 Issued:	□ Yes □ Yes	☐ No ☐No(Form No	Assignment No. <u>9771</u>	
Validated by: Name (	PRINT)	Date (Y/M/D)	Signature	

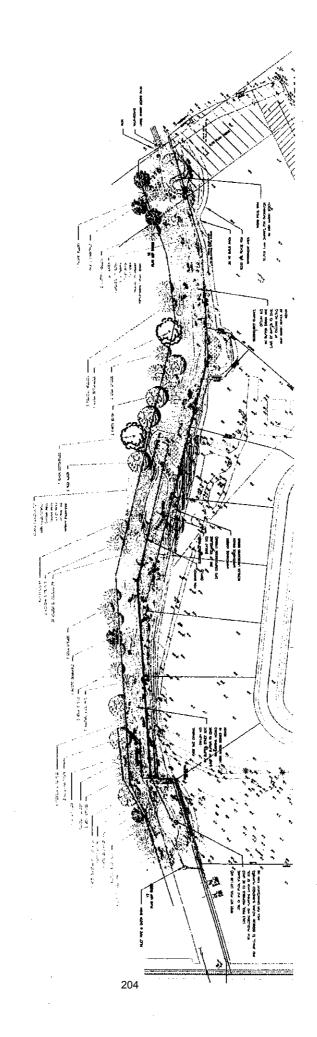
# BChydro @

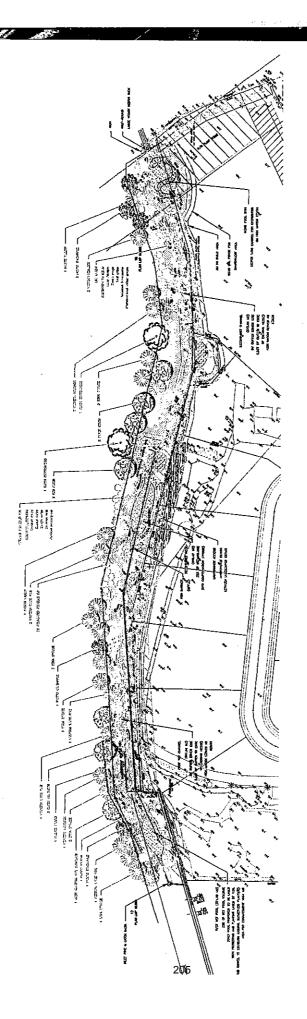
# **RIGHT OF WAY CONSENT - SPECIAL CONDITIONS**

Date Issued (Y/M/D)	Expiry Date (Y/M/D)	Region	File No.	Assignment No.
2007/01/26	2008/01/26	LM	441-1402.0(2)-18	9771
			489-1402.0(1)-2	

#### Special Conditions:

- 1. If the Proposal impacts or interferes with any present or future B.C. Hydro works, you shall, at your expense, relocate the Proposal to an alternate location approved by B.C. Hydro, upon receiving not less than 90 days' prior written notice from Hydro.
- 2. Any metal fences more than 60 meters long in the right of way must be grounded at both ends and at intervals of 60 meters.
- 3. Landscaping within the right of way must be restricted to low-growing trees, shrubs and plants <u>not</u> exceeding 3.0 meters in height at maturity. Trimming trees to standard is not permitted. BC Hydro, its agents and contractors reserve the right to remove tall growing trees from underneath and adjacent to the transmission lines from time to time to assure line security and public safety.
- 4. The proposed road/park within the right of way must not be dedicated but must remain land with a registered title.
- 5. B.C. Hydro reserves the right to fill in all or a portion of the detention pond to accommodate future electrical line construction. B.C. Hydro will give you written notice no less than 90 days prior to filling the detention pond. If it is necessary to partially fill in the pond, so long as conditions permit, B.C. Hydro will permit you to extend the detention pond to its original size, at your expense.
- 6. B.C. Hydro will not be held liable for any loss of capacity of the detention pond as a result of filling in the pond to accommodate B.C. Hydro's requirements.





# Rezoning Considerations 12751 Rice Mill Road RZ 06-330060

Prior to final adoption of Zoning Amendment Bylaw Nos. 8274 and 8277, the developer is required to complete the following requirements:

- 1. Ministry of Transportation (MOT) approval;
- 2. Confirmation of BC Hydro concurrence that the landscaping and restoration proposed within the Rights-of-Way is acceptable;
- 3. Registration of a Flood Plain Covenant on title referencing the minimum habitable elevation for the area, which is 2.6 m (geodetic);
- 4. Confirmation from the Department of Fisheries and Oceans of:
  - a successful application to commit the harmful alteration, disruption or destruction of fish habitat (HADD) (Watercourse D) and associated compensation; and
  - b. a successful reclassification from a Major Canal/Slough (15 m (50 ft.)) Riparian Management Area to Minor Watercourse (5 m (16 ft.)) Riparian Management Area (Watercourse C);
- 5. Submission of a survey plan delineating the ESA area along the northern portion of the subject site to be transferred to the City as a lot. All costs associated with the transfer are the sole responsibility of the project proponent. Prior to transferring ownership, the applicant will undertake any required improvements (including garbage removal, and tree removal) subject to consultation with the City of Richmond's Parks Department;
- 6. Registration of no build covenants to secure the following setbacks:
  - a. Watercourse B: 18 m setback (which includes a15 m RAR setback and an additional 3 m wide setback to secure tree preservation) from the top of bank. The covenant shall also prohibit paving within the setback;
  - b. Watercourse C: contingent upon confirmation of reclassification from the DFO, an 8 m setback (which includes a 5 m RAR setback and an additional 3 m wide setback to secure tress preservation) from top of bank. This covenant is to include details for a low split rail fence; and
  - c. Watercourse A: 3 m wide setback from the future property line. This covenant is to include details for a low split rail fence;
- 7. Submission of a management plan for Watercourse A, Watercourse B and Watercourse C to the satisfaction of the Director of Development;
- 8. Completion of an ESA Development Permit (DP 06-340150) to the satisfaction of the Director of Development; and

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9. The developer is required to enter into a Servicing Agreement, work includes but is not limited to:

#### Rice Mill Road:

- a. Final total Right of Way of 20.12 metres is to be achieved at the time the lot on the south side of Rice Mill Road develops;
- b. Frontage works along Rice Mill Road include maintaining the approximate 6.87 m clearance between the existing edge of pavement and the south property line, a minimum 1 m wide shoulder (gravel/paved), 8.6 m wide travel lanes (2 x 4.3 m wide shared vehicle and bike lanes), 0.15 m wide curb/gutter, 2 m wide boulevard, and 1.5 m wide sidewalk (total 20.12m);
- c. At this time, the applicant is required to establish a functional width requiring the establishment of a 13.25 metre Right of Way that commences at No. 5 Road and extends to the eastern edge of the subject site (to the Model Airplane Park);

#### Internal Roads

- a. The cross section for the new internal road is to establish a 20 metre wide Right of Way, including 11.2 m width of pavement, curb and gutter, sidewalk and boulevard on both sides;
- b. 4 m x 4 m corner cuts are preferred for the new internal road system; instead of the current proposal that includes "round" corners.

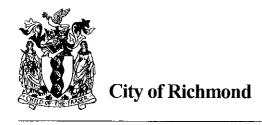
### Water, Storm, Sanitary Upgrades

- a. Upgrades as determined by the capacity analysis process;
- b. A 6 m wide sanitary sewer right of way along the southern edge of proposed Lot 1 as per the recommendation of the applicant's consultant;
- c. The sanitary sewer is not permitted within Watercourse A in the DFO designated enhancement area that is to be provided as compensation for the filling of Watercourse D; and
- d. Storm water will rewet Watercourse A; water treatment units, that are to the satisfaction of the City, are required to ensure water quality.

The following are to be completed prior to issuance of a Building Permit:

- 1. Applicant is required to substantiate access to proposed Lot 14 and confirm that all parking and loading provisions for the proposed lots comply with requirements of the City Zoning and Development Bylaw; and
- 2. Provision of a construction parking and traffic management plan to the satisfaction of the Transportation Division (<a href="http://www.richmond.ca/services/ttp/spcial.htm">http://www.richmond.ca/services/ttp/spcial.htm</a>).

[Signed original on file]		
Signed	Date	



# Richmond Zoning and Development Bylaw 5300 Amendment Bylaw 8274 (06-330060) 12751 RICE MILL ROAD

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning and Development Bylaw 5300, amended by repealing the existing zoning designation of the following area and by designating it **LIGHT INDUSTRIAL DISTRICT (12)**.

P.I.D. 003-538-451

Lot 6 Sections 6 and 7 Block 3 North Range 5 West New Westminster District Plan 23654

2. This Bylaw may be cited as "Richmond Zoning and Development Bylaw 5300, Amendment Bylaw 8274".

FIRST READING	JUL 23 2007	CITY OF RICHMOND
A PUBLIC HEARING WAS HELD ON		APPROVED by
SECOND READING	<del></del>	APPROVED by Director
THIRD READING	-	ar Solicitor
OTHER REQUIREMENTS SATISFIED		
ADOPTED		
MAYOR	CORPORATE OFFICER	
THIRD READING OTHER REQUIREMENTS SATISFIED ADOPTED	CORPORATE OFFICER	by Dir