City of Richmond

Report to Committee

To:	Planning Committee	**Date:**	April 29, 2015
From:	Wayne Craig Director of Development	**File:**	AG14-657892
Re:	**Agricultural Land Reserve Appeal Application by Arul Migu Thurkadevi Hindu Society of BC for Non-Farm Use at 8100 No. 5 Road**		

Staff Recommendation

That the application by Arul Migu Thurkadevi Hindu Society of BC for a non-farm use at 8100 No. 5 Road to develop a Hindu temple and off-street parking on the westerly 110m of the site be endorsed and forwarded to the Agricultural Land Commission.

Wayne Craig
Director of Development

WC:mp
Att.

REPORT CONCURRENCE
CONCURRENCE OF GENERAL MANAGER

4521405

Staff Report

Origin

Arul Migu Thurkadevi Hindu Society of BC has applied to the City of Richmond for an Agricultural Land Reserve (ALR) non-farm use application for permission to develop a Hindu temple and required off-street parking on the westerly 110 m of the site at 8100 No. 5 Road. The site is currently occupied by a single family dwelling, which will be demolished. A location map and an aerial photograph are included in Attachment 1.

Findings of Fact

A Development Application Data Sheet providing details of the development proposal is contained in Attachment 2.

ALR Non-Farm Use Application Process

A non-farm use application requires consideration by Richmond City Council prior to being forwarded to the Agricultural Land Commission (ALC) for consideration. If the Council passes a resolution in support, the non-farm use application will be forwarded to the ALC. Should Richmond Council not grant approval of the non-farm use application, the application will not proceed further. Once the application is forwarded to the ALC, it has the sole decision making authority on the proposal. If approved, the application will be returned to the City for future consideration of the application to rezone the westerly 110m of the site from "Agriculture (AG1)" to "Assembly (ASY)".

Project Description

The subject site is 10,955 m^2 (2.7 acres) in area. Under the proposed land use plan, approximately 40% of the site would be used by institutional use (i.e., the Hindu temple and associated off-street parking) and 60% would be used for agriculture. The site area for institutional uses is located within Council's endorsed 110m limit for institutional uses on the No.5 Road corridor. Details of the proposed agricultural plan are provided in the "Analysis" section of this report.

The proposed temple building will be approximately 1,308.7 m^2 (14,087.1 ft^2) in floor area. The building will contain a worship hall, a multi-functional hall and ancillary uses on the ground floor, and a 152.6 m^2 (1,643 ft^2) dormitory containing two sleeping units on the second floor. The proposed dormitory use is permitted under the "Assembly (ASY)" zone.

The multi-functional hall will front onto No. 5 Road and will be used for community support services such as a gathering place for seniors, language, cultural and religious studies and a dining hall after religious services. The main entrance to the worship hall is proposed on the east side of the building, and parking areas are proposed around the building. Preliminary drawings are provided in Attachment 3.

The proposed temple development would comply with the proposed "Assembly (ASY)" zoning regulations, except for the proposed height for the decorative roof elements. The preliminary drawings identify a variance to increase the height of the decorative roof elements from 12 m to

14.8 m. Details of the requested variance will be further reviewed through the forthcoming Development Variance Permit application process. If approved by the ALC, a staff report for the rezoning will be prepared for Council, and the Development Variance Permit application will be reviewed by the Development Permit Panel. Staff will continue to work with the applicant to refine the building design and reduce any potential building height variance should the application proceed.

Surrounding Developments

The subject site is surrounded by properties contained in the ALR.

To the North: The subject site abuts three properties to the north.

- To the northwest is the Richmond Chinese Evangelical Free Church with associate parking area located at 8040 No. 5 Road, which is zoned "Assembly (ASY)".
- The middle portion of the subject site abuts the rear portion of the site located at 12180 Blundell Road, which is zoned "Agriculture (AG1)". The site is also owned by Richmond Chinese Evangelical Free Church and is occupied by a single detached house. Currently, there are no farming activities occurring on the site.
- To the northeast is the Fujian Evangelical Church located at 12200 Blundell Road, which is zoned "Assembly (ASY)".

To the East: The BC Muslim Association at 12300 Blundell Road containing temple-related buildings and off-street parking. The entire site is zoned "Assembly (ASY)".

To the South: A property owned by Thrangu Monastery Association at 8140 No. 5 Road containing a temple building on a split-zoned property with "Assembly (ASY)" on the westerly 110 m and "Agriculture (AG1)" on the remaining portion. Active farming is undertaken on the back portion of the site in the form of an orchard.

To the West: Across No. 5 Road, "Agricultural (AG1)" zoned properties.

Related Policies & Studies

2041 Official Community Plan (OCP)

The westerly 110m of the subject site is designated "Community Institutional" in the 2041 OCP and "Agriculture, Institutional and Public" in the McLennan Sub-Area Plan, and the remaining portion is designated "Agriculture" in both plans. The proposal complies with the existing OCP and Sub-Area Plan land use designation (Attachment 4).

No. 5 Road Backlands Policy

The original No. 5 Backlands Policy was approved by Council in 1990 and was revised on March 27, 2000 (Attachment 5). The provision of this Policy allow for land uses permitted in the "Assembly (ASY)" zoning district on the westerly 110m (361 ft.) of properties on No. 5 Road and all proposals for lands subject to the Policy are required to enter into legal agreements as deemed necessary to ensure active farming of the backlands. The proposal is consistent with this Policy.

Flood Plain Designation and Protection Bylaw 8204
The proposal must comply with the City's Flood Plain Designation and Protection Bylaw 8204. Registration of a Flood Plain Covenant on title will be required as part of the rezoning application process.

Consultation

Agricultural Advisory Committee (AAC)

The AAC reviewed the proposal at its meeting held on January 29, 2015 and passed the following motion (Attachment 6):

That the non-farm use application for a new Hindu temple at 8100 No. 5 Road be supported subject to the following conditions:

1. *Additional organic soil to be retained on the site as per the recommendations included in the agrologist report;*

2. *The drainage tile to be a minimum of 4" in size and not to have a sock; and*

3. *An alternative drainage plan to be brought forward for Committee's review and comments if the City does not allow the site to connect to the City's storm sewer system.*

Carried Unanimously

Details of the agricultural plan and the revisions to address the AAC's comments are described in detail in the "Analysis" section of this report.

Analysis

Staff Comments
No significant concerns have been identified through the review of the non-farm use application. As the majority of the subject site is designated as an Environmentally Sensitive Area (ESA) and the proposed parking area would encroach onto the western portion of the ESA, an ESA Development Permit will be required. Under the ESA Development Permit exemption criteria specified in the 2041 OCP, agricultural activities would not be subject to the ESA Development Permit requirements if the applicant provides information to demonstrate that the site will be farmed by legitimate farmers. Further review will be conducted at the Development Permit stage to determine the value of the ESA and appropriate compensation. The Development Permit would be combined with the Development Variance Permit if the applicant wishes to continue to pursue the variance for the increased height.

Agricultural Plan
The applicant has provided an agricultural plan prepared by a professional agrologist (Attachment 7). The plan describes the agricultural capability of the site and provides a detailed farm implementation plan.

The congregation intends to grow a selection of vegetables and fruits on a small portion of the agricultural land and plant approximately 815 blueberry trees, and donate farm products for

charity or use them for community purposes and/or self-consumption. The operation of the farm will be led by an established Richmond farmer who has extensive hands-on experience in biodynamic farming and the members of the congregation with previous farming experience.

In order to increase agricultural capability of the subject site, the plan proposes a subsurface drainage system, and salvage of topsoil from the proposed institutional portion of the site to be spread evenly across the agricultural portion of the land.

The AAC was generally satisfied with the proposed agricultural plan but noted concerns regarding the drainage system designed to discharge the subsurface drainage water into the eastern portion of the ESA and infiltrate naturally into the ground if the City does not allow the site to be connected to the City's storm sewer system on No. 5 Road. The AAC noted that this option may cause drainage issues for neighbouring properties, and requested that the applicant confirm with the City's Engineering staff if connection to the City's storm sewer system on No.5 Road would be allowed. Also, the AAC requested that the minimum size of the subsurface drainage pipe be 4 inches, which is typical for blueberry farming, and not be covered with a filter sock (typically used to prevent clogging of perforated drainage pipes) as it is not suitable for organic soil.

In order to address the AAC concerns, the applicant has submitted a revised drainage plan and a memo providing the following additional details (Attachment 8).

- The site will be connected to the City's storm sewer system on No.5 Road. Since the City does not allow groundwater to be discharged into the City's storm sewer due to its high iron content, the drainage design is revised to show that only surface water, not groundwater, will be discharged to the City's storm sewer system on No. 5 Road. The revised plan also shows that field drainage will be by a ditch on the south property line and site grading will direct surface water into the ditch and then into the main storm sewer pipe under the proposed parking area.
- No filter sock will be attached to the subsurface drainage pipe as requested by the AAC.
- Approximately 1,500 m^3 soil will be salvaged from the institutional portion of the site to be spread over the agricultural area.

The memo and the revised plan were circulated to the AAC members by email for review and comment. The AAC was generally satisfied with the revised plan and additional details provided in the memo, but requested the applicant to increase the size of the main storm sewer pipe under the parking area from 150 mm to 250 mm to prevent any potential flooding issues. The applicant further revised the memo to indicate the size of the storm sewer pipe will be 250 mm.

The cost to implement the agricultural plan is estimated to be $59,925. Staff recommend that a legal agreement and security be requirements of the forthcoming rezoning application process to ensure the farm plan is implemented. The agreement will require confirmation that the agricultural backlands are in full farm production, which must be verified by a report submitted from the consulting agrologist prior to release of the security.

Forthcoming Applications

If the ALR non-farm use application is approved, the following issues will be dealt with at the future application stages:

- Rezoning Application
  - Develop more detailed building plans
  - Review technical and servicing details and finalize all engineering and transportation requirements including a 4-m land dedication along No.5 Road and infrastructure upgrades
  - Confirm compliance with the parking provisions in the Zoning Bylaw
  - Review details of the anticipated special events and parking management plan
  - Secure an appropriate legal agreement and bond to ensure that the agricultural backlands will only be utilized for farm activities and the proposed agricultural plan is implemented

- ESA Development Permit Application
  - Review details of the existing vegetation and determine appropriate mitigation and compensation measures
  - Develop detailed landscape plans
  - Finalize details of the landscape buffer between the proposed non-farm use and farm use and secure a legal agreement to be registered on title that identifies that the on-site agricultural landscape buffer to be implemented
  - Review details of a tree retention plan and determine appropriate replacement planting

- Development Variance Permit Application
  - Review details of the proposed height variance

The ESA Development Permit and Development Variance Permit would be processed concurrently.

Financial Impact

None anticipated.

Conclusion

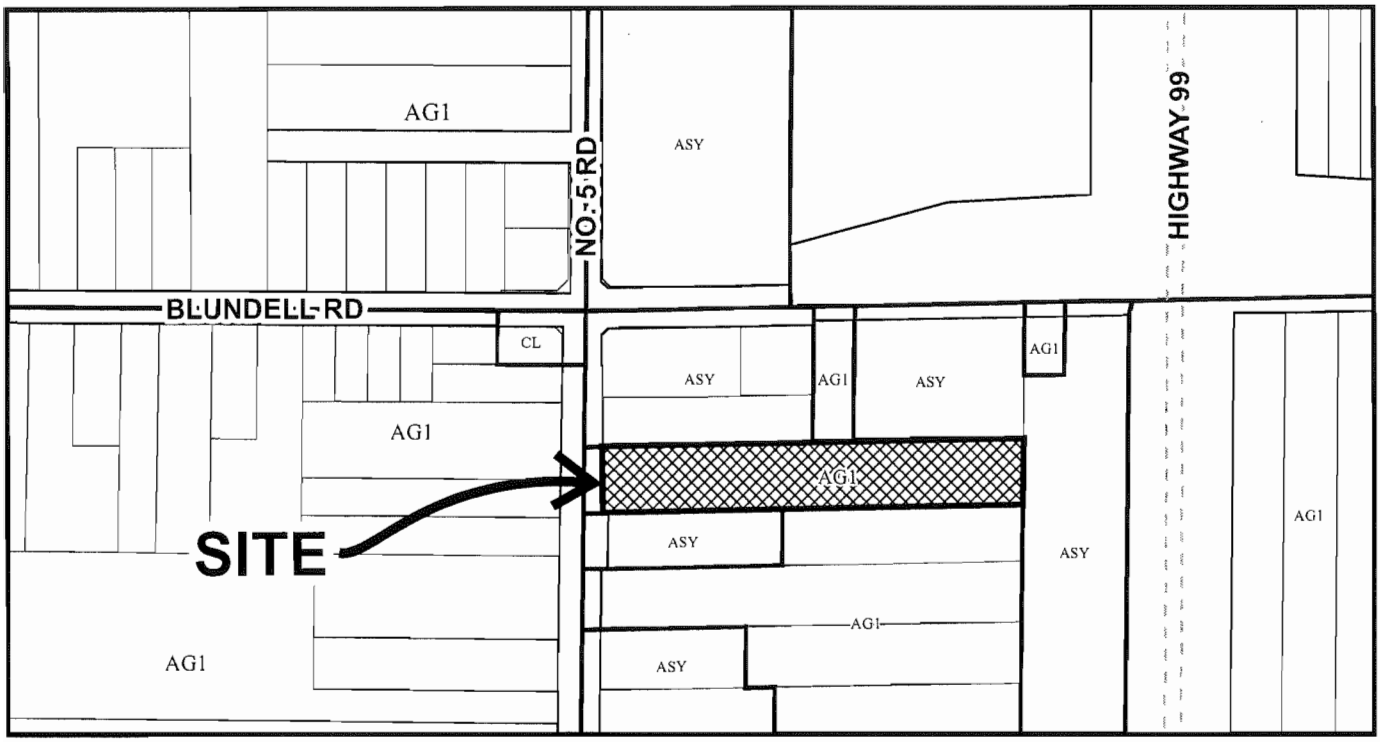
The proposal is consistent with the 2041 OCP and No. 5 Backlands Policy. Staff support the ALR non-farm use application at 8100 No. 5 Road and recommend that Council endorse the application to be forwarded to the ALC for consideration.

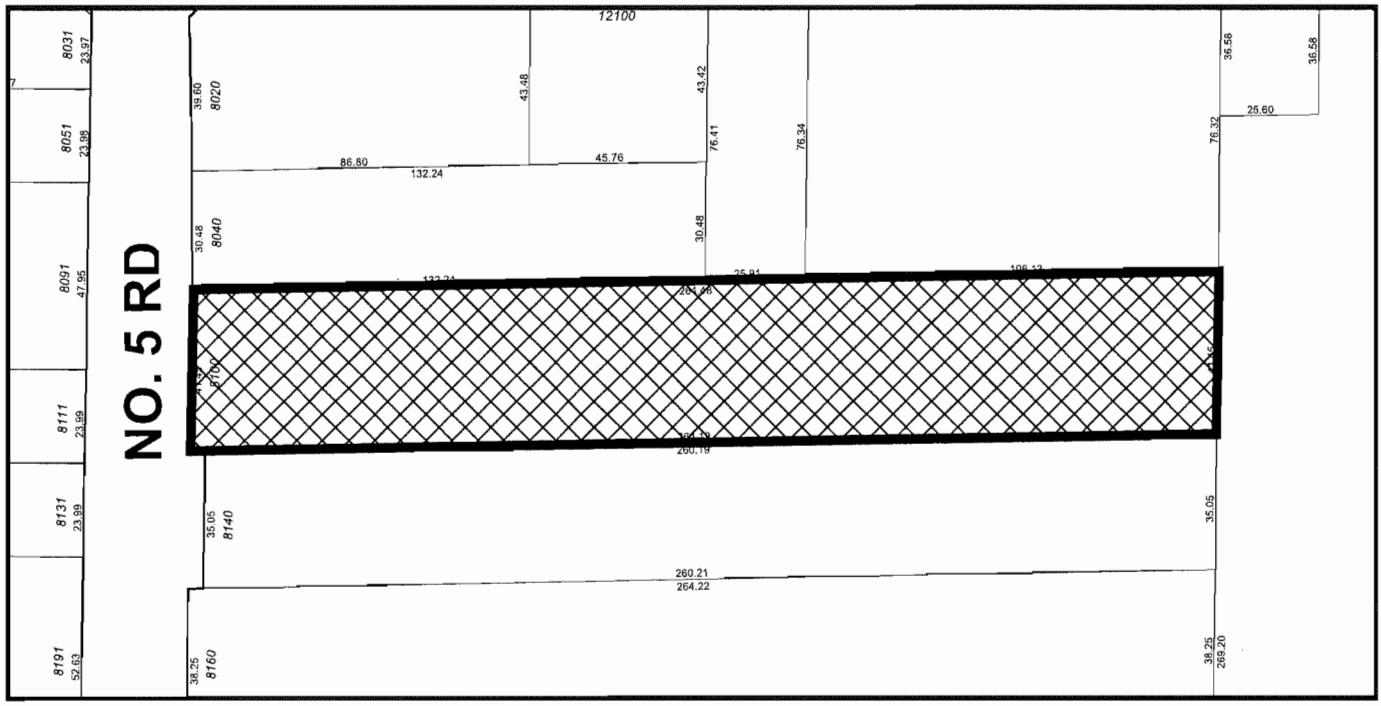
Minhee Park
Planner 1

MP:cas

Attachment 1: Location Map
Attachment 2: Development Application Data Sheet
Attachment 3: Preliminary Drawings
Attachment 4: East Richmond McLennan Sub-Area Plan Land Use Map
Attachment 5: No. 5 Road Backlands Policy
Attachment 6: Agricultural Advisory Committee Meeting Minutes (January 29, 2015)
Attachment 7: Agricultural Plan
Attachment 8: Memo from the Agrologist and Revised Drainage Plan

City of Richmond





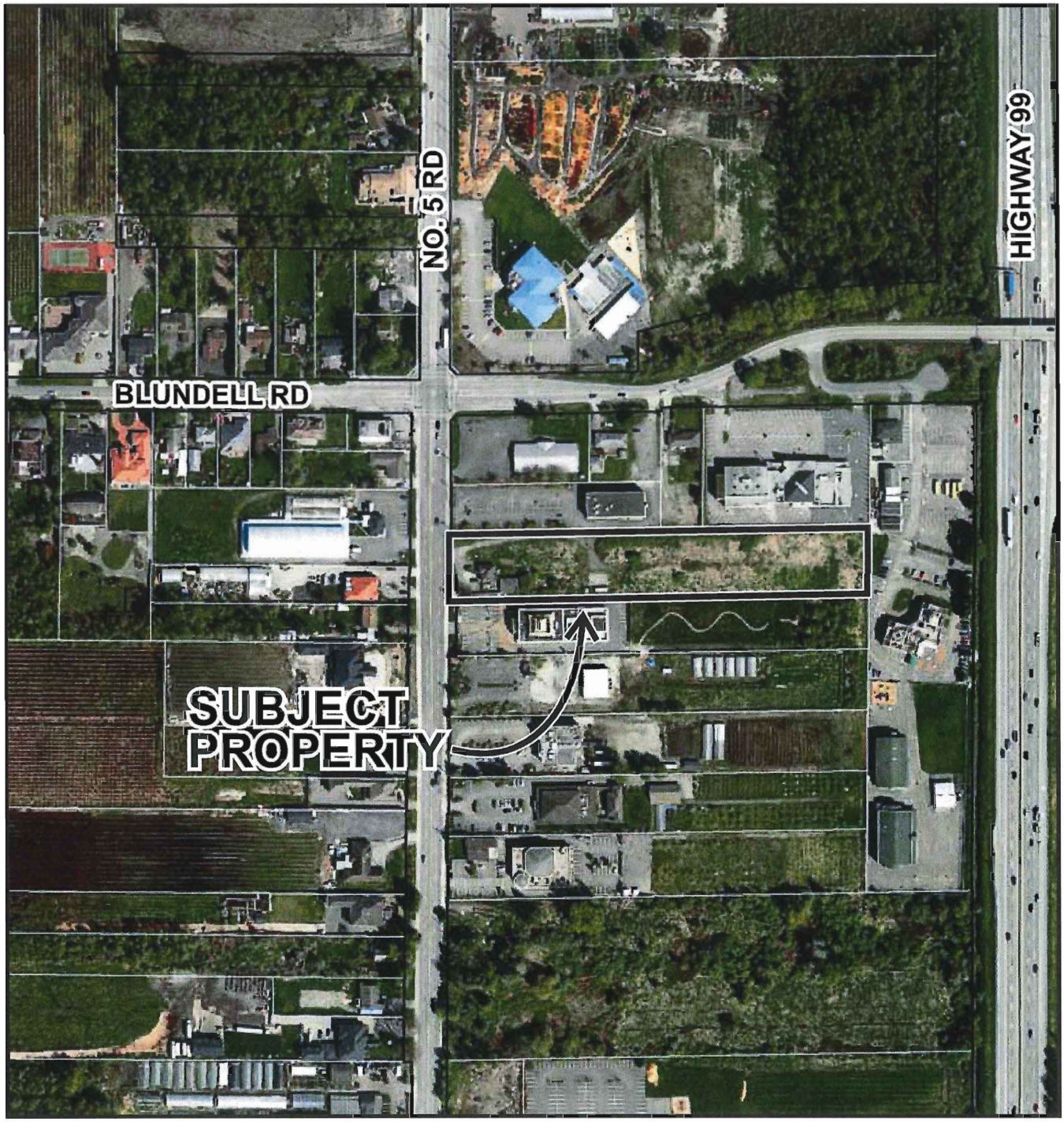
AG 14-657892

Original Date: 03/17/14

Revision Date: 05/06/15

Note: Dimensions are in METRES

City of
Richmond



AG 14-657892

Original Date: 03/17/14

Revision Date:

Note: Dimensions are in METRES

City of Richmond

Development Application Data Sheet

Development Applications Division

AG 14-657892 **Attachment 2**

Address: 8100 No.5 Road

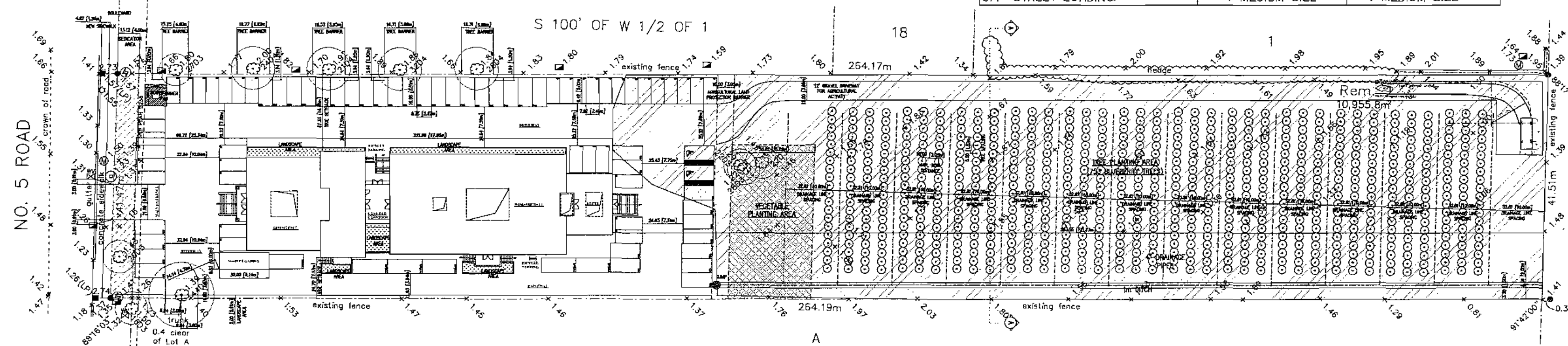
Applicant: Arul Migu Thurkadevi Hindu Society of BC

Planning Area(s): East Richmond – McLennan Sub Area

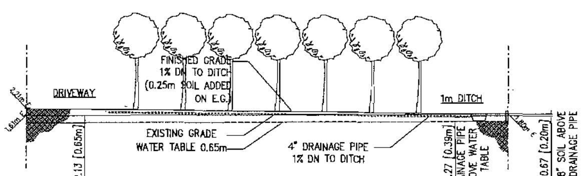
	Existing	Proposed
Owner:	Domenica Taddei & Giuseppe Taddei	Arul Migu Thurkadevi Hindu Society of BC
Site Size (m^2):	10,955 m^2	10,790 m^2 (after 4m dedication)
Land Uses:	A single detached house (to be demolished)	Westerly 110m: Institutional Remaining portion: Agriculture
OCP Designation (General):	Westerly 110m: Community Institutional Remaining: Agriculture	No change
McLennan Sub Area Plan Designation:	Westerly 110m: Agriculture, Institutional and Public Remaining: Agriculture	No change
Zoning:	Agriculture (AG1)	Westerly 110m: Assembly (ASY) Remaining: Agriculture (AG1)
Other Designations:	ESA (Old Fields and Shrublands) designation on the entire backlands and a portion of the proposed parking area	ESA DP required

ATTACHMENT 3

	EXISTING:	PROPOSED:
LEGAL DESCRIPTION:	SURVEY PLAN OF LOT 2, EXCEPT: THE SOUTH 115 FT; BLOCK "A" OF SECTION 19, BLOCK 4 NORTH, RANGE 5 WEST, NEW WESTMINSTER DISTRICT, PLAN 4090	
SITE AREA:	117939.19 SF (10955.8 SM)	117939.19 SF (10955.8 SM)
LAND USES:	SINGLE FAMILY HOUSE & AGRICULTURE	ASSEMBLY
OCP DESIGNATION:	RESIDENTIAL & AGRICULTURE	ASSEMBLY
ZONING:	AG1	ASY
	REQUIRED/ALLOWED: (BASED ON ASY)	PROPOSED:
FLOOR AREA RATIO:	58969.60SF (0.50)	13794.5SF (0.117)
LOT COVERAGE:	MAX. 41278.72SF (35%)	12283.5SF (10.42%)
SETBACK–FRONT YARD:	MIN. 6.0m	20.34m (66.72')
SETBACK–SIDE YARD:(NORTH)	MIN. 7.5m	14.43m (47.33')
SETBACK–SIDE YARD:(SOUTH)	MIN. 7.5m	7.53m (24.70')
SETBACK–REAR YARD:	MIN. 7.5m	171.77m (563.55')
HEIGHT: (m)	12.0m (39.37')	BUILDING: 10.3m(33.87') DECORATION TOWER: 14.76m (48.42')
LOT SIZE:	N/A	117939.19 SF (10955.8 SM)
OFF–STREET PARKING ASSEMBLY:	RELIGIOUS ASY: 61.88 BANQUET HALL: 20.9 DORMITORY: 1 CHILD CARE: 1.75 KITCHEN: 2.0 (TABLE 7.7.2.3) **9.15% VARIANCE TOTAL: 79.65	REG: 35 SMALL: 37 H/C: 2 PARALLEL: 6 (2.67mX6.4m) TOTAL: 80
OFF–STREET BICYCLE PARKING ASSEMBLY:	CLASS–1: 2.12 CLASS–2: 6.13 TOTAL: 8.25	BICYCLE PARKING: 10
OFF–STREET PARKING ACCESSIBLE:	2% OF PARKING 1.4	2
OFF–STREET LOADING:	1 MEDIUM SIZE	1 MEDIUM SIZE



MASTER PLAN



AGRICULTURAL LAND SECTION A-A

ENVIRONMENTALLY SENSITIVE AREA

VEGETABLE PLANTING AREA

DEDICATION AREA ALONG NO.5 ROAD

MATTHEW CHENG ARCHITECT INC.

Unit 202 - 670 EVANS AVENUE
VANCOUVER, BC V6A 2K9

No	Date	Revision
01	07/07/14	REZONING SUBMISSION
02	01/05/15	REZONING RESUBMISSION
03	02/10/15	REZONING RESUBMISSION
04	03/10/15	REZONING RESUBMISSION
05	04/28/15	REZONING RESUBMISSION

Consultants

Project Title
HINDU TEMPLE
8100 NO.5 ROAD
RICHMOND, B.C.

Sheet Title
MASTER PLAN
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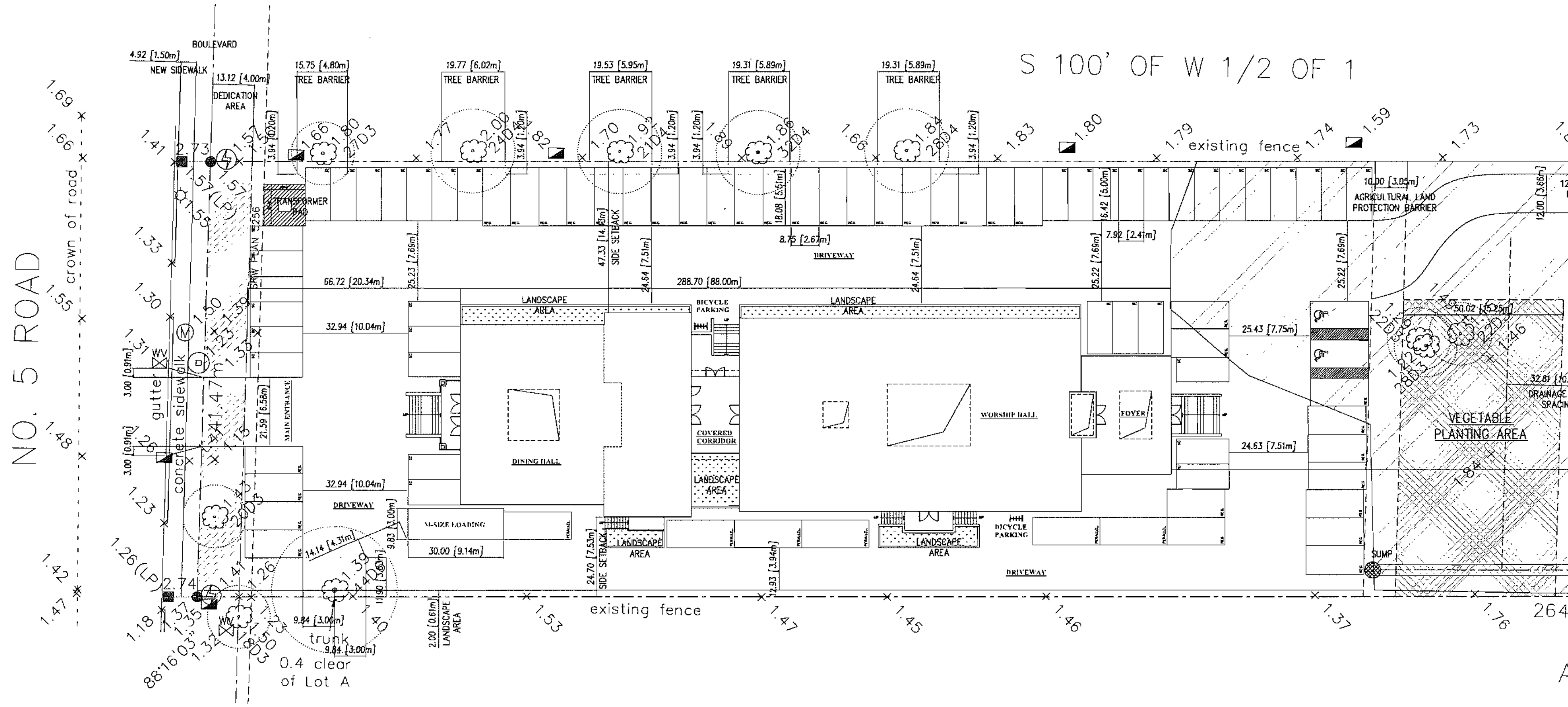
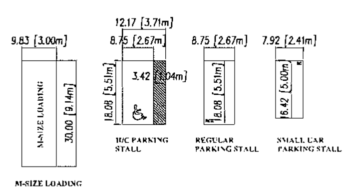
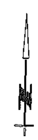


SITE PLAN





ENVIRONMENTALLY SENSITIVE AREA
VEGETABLE PLANTING AREA
DEDICATION AREA ALONG NO.5 ROAD

MATTHEW CHENG ARCHITECT INC.

Unit 202 - 670 EVANS AVENUE
VANCOUVER, BC V6A 2K9

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04	03/10/15	REZONING RESUBMISSION
05	04/28/15	REZONING RESUBMISSION

Consultants

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HINDU TEMPLE
8100 NO.5 ROAD
RICHMOND, B.C.

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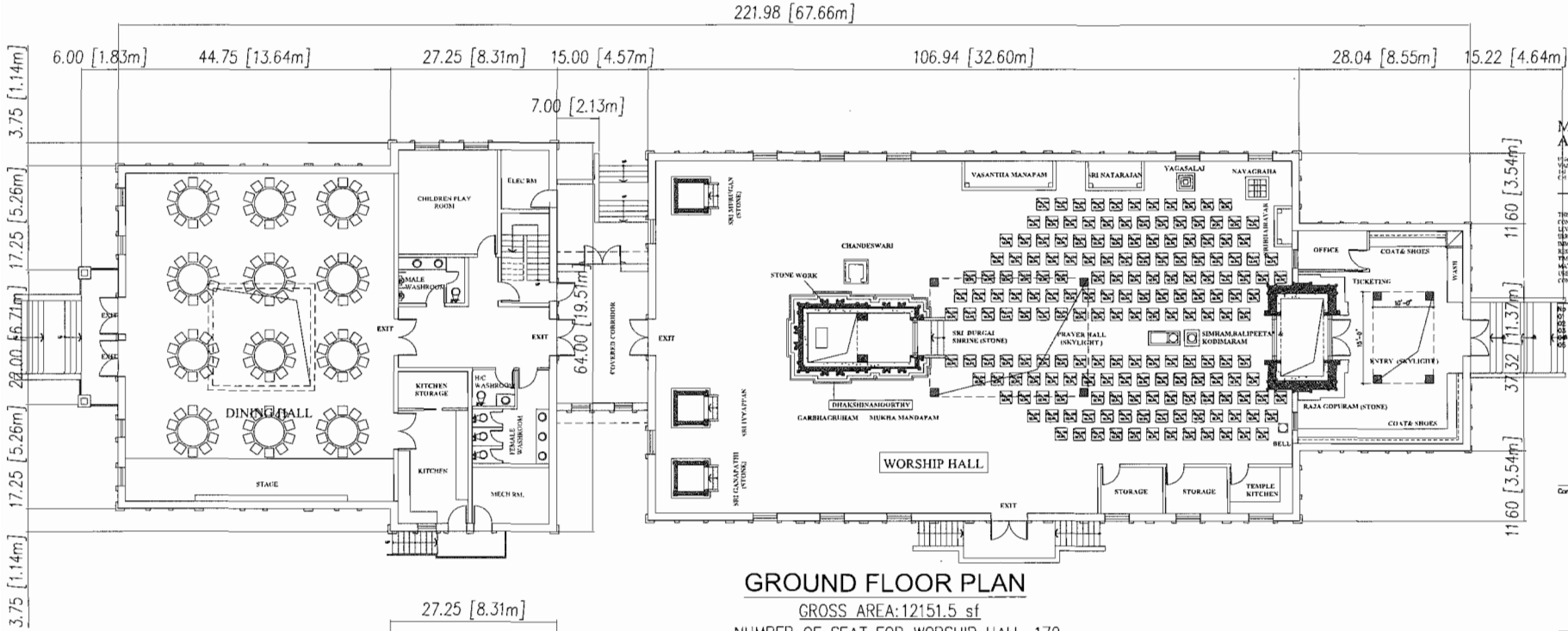

GROUND FLOOR PLAN

GROSS AREA:12151.5 sf

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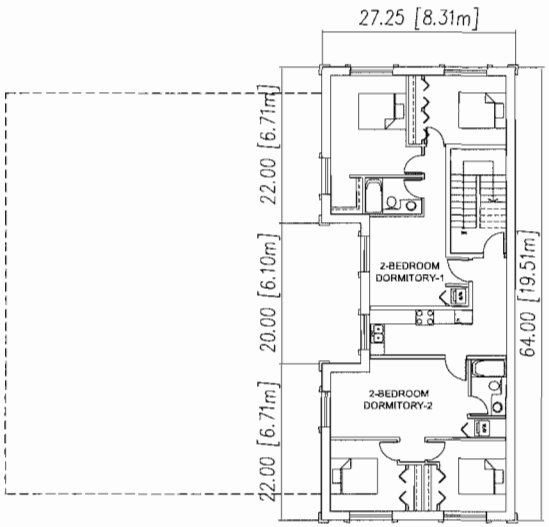
NUMBER OF SEAT FOR DINING HALL= 120



SECOND FLOOR PLAN

GROSS AREA:1643 sf

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06	04/28/15	REZONING RESUBMISSION

Consultants

Project Title
HINDU TEMPLE
8100 NO.5 ROAD
RICHMOND, B.C.

Sheet Title
FLOOR PLANS

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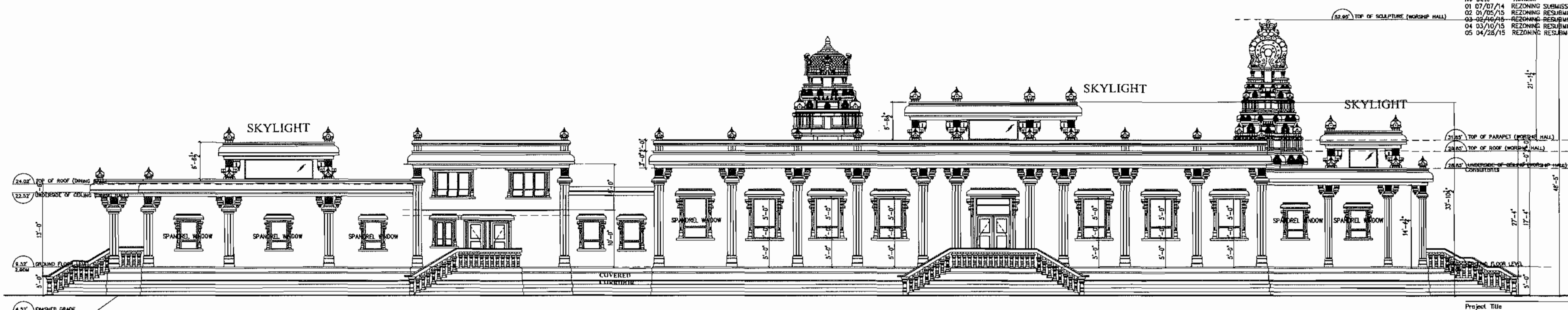
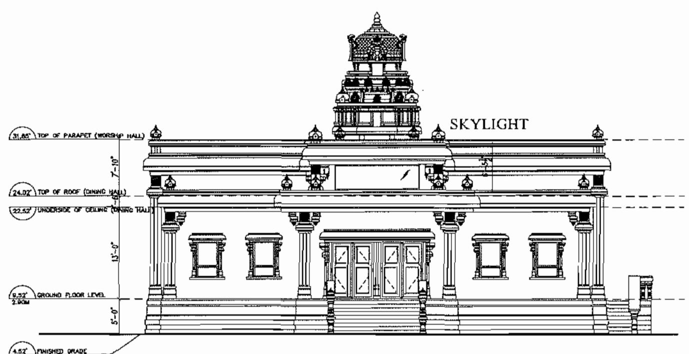


SOUTH ELEVATION



WEST ELEVATION (FRONTING NO.5 ROAD)

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VANCOUVER, BC V6A 2K9

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05	04/28/15	REZONING RESUBMISSION

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HINDU TEMPLE
8100 NO.5 ROAD
RICHMOND, B.C.

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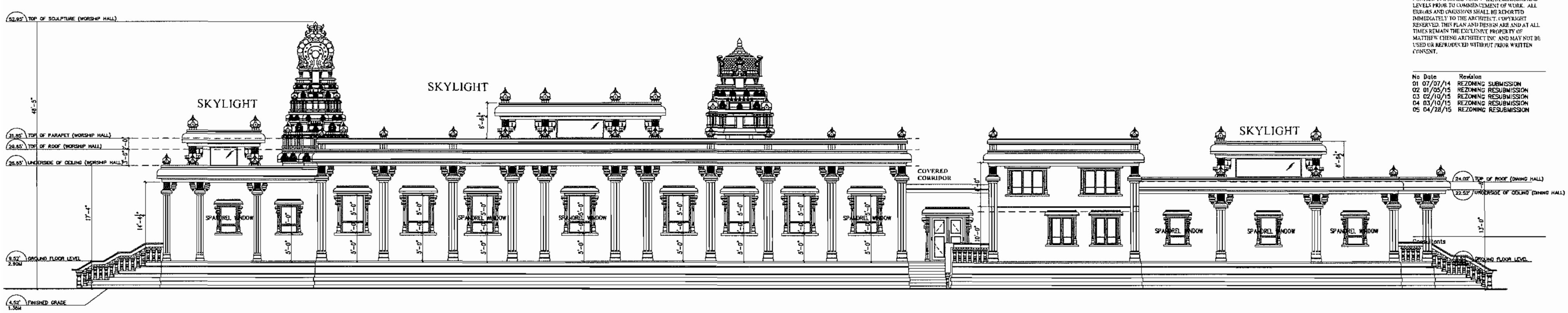
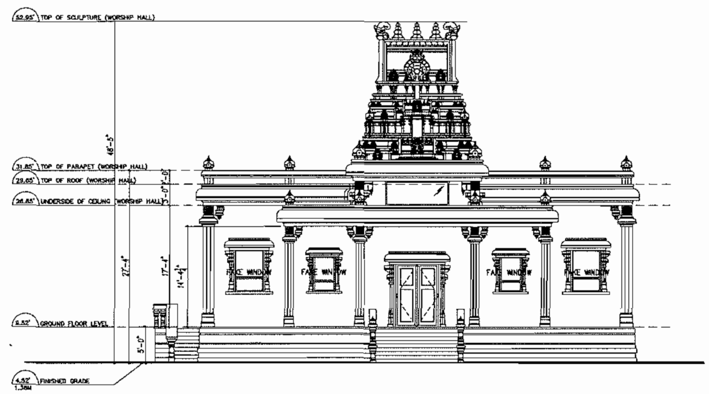


NORTH ELEVATION



EAST ELEVATION

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HINDU TEMPLE
8100 NO.5 ROAD
RICHMOND, B.C.

Sheet Title
ELEVATIONS

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Print Date: 2015/04/28
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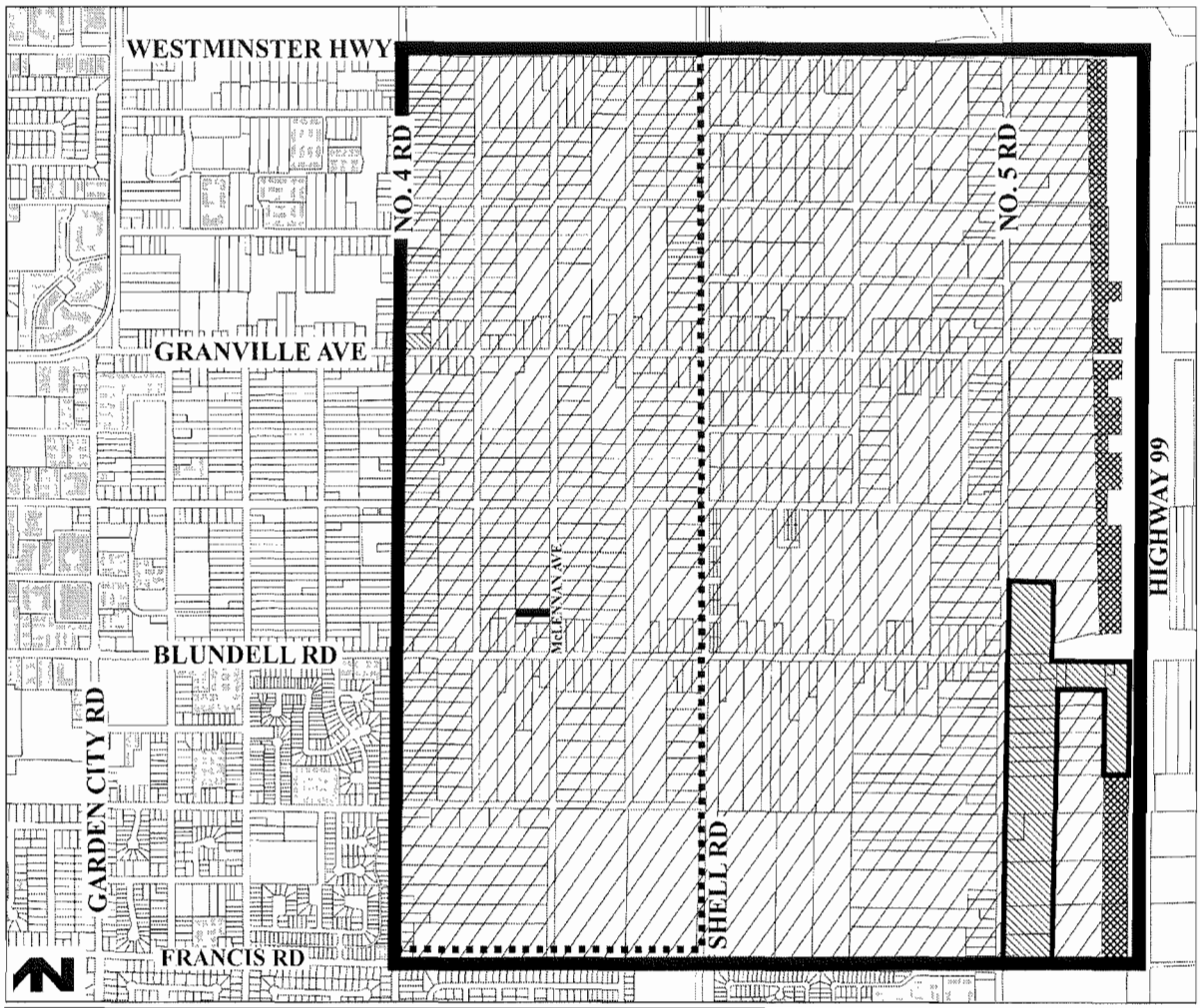
Land Use Map

Bylaw 8791
2012/09/10



City of Richmond Policy Manual

Page 1 of 3	Adopted by Council: Mar. 27/00	POLICY 5037
File Ref: 4105-04	NO. 5 ROAD BACKLANDS POLICY	

POLICY 5037:

It is Council policy that:

1. The area outlined in bold lines as "Area Proposed for Public and Institutional Use" on the accompanying plan dated 01/24/00 may be considered for non-farm use.

2. The types of non-farm use which may be considered are:
   - "Assembly District" uses, and
   - Certain "School / Public Use District" uses (i.e., public park, public recreation facility, municipal works, health and safety measures, community use).

3. The amount of land on each property which may be developed for approved non-farm uses is limited to the westerly 110 m (360.892 ft) for properties fronting onto No. 5 Road.

   The remaining back land portion of each property shall be retained for farm use only.

4. Satisfactory sanitary sewage disposal is required as a condition of Development Permit approval.

5. Continue to strive for a partnership approach, with back land owner prepared farm plans to achieve farming, but allow for a limited infrastructure component (e.g., little or no regional and on-site drainage, irrigation or access roads), where a full infrastructure component is not practical.

6. The current moratorium on non-farm use approvals (initiated by the Land Commission and adopted by Council in February, 1996) should be retained and may be lifted on an individual lot basis for owners who:

   a) prepare farm plans;
   b) explore farm consolidation;
   c) commit to do any necessary on-site infrastructure improvements;
   d) co-operate as necessary to remove constraints (e.g., required infrastructure) to farming the back lands, in partnership with others; and
   e) commit to legal requirements as may be stipulated by Council to achieve acceptable land uses (e.g., farming the back lands).
   f) undertake active farming of the back lands.

7. The following procedure will apply when considering applications for non-farm use and Assembly District rezoning.

Approvals Procedure
Proponent applies to City and Commission for non-farm use approval.
Commission reviews proposal and may give approval in principle for non-farm use based on the proponent: • preparing an acceptable farm plan; • entering into a restrictive covenant; • providing a financial guarantee to farm; and • agreeing to undertake active farming first
Proponent undertakes active farming based on the approved farm plan.
Commission gives final approval for non-farm use.
Proponent applies to City for rezoning of site to Assembly District (ASY).
City approves rezoning application after proponent meets all City requirements.

Amendments to the above policies

If either the City or the Land Commission intends to amend any of the above procedures, the initiating party will advise the other party of this intent and seek comment on the proposed amendments prior to concluding any approvals.

Co-ordination of review process

The City and the Commission will co-ordinate efforts when reviewing applications for non-farm use, in order to ensure that the interests of each party are addressed. This co-ordinated effort will be done prior to granting any approvals.

Area Proposed for Public and Institutional Use

Date:
01/24/00

Attachment 6

Excerpt from the Minutes from
The Agricultural Advisory Committee Meeting

Thursday, January 29, 2015 – 7:00 p.m.
Anderson Room
Richmond City Hall

3. Development Proposal - ALR Non-Farm Use

Staff outlined the non-farm use proposal to develop a new Hindu temple at 8100 No. 5 Road. Staff noted that the proposal is subject to the No. 5 Backlands Policy, which allows institutional uses on the westerly 110m when the remaining portion is strictly used for farming. Staff also indicated the proposal includes a height variance and will be subject to the ESA DP requirement.

Committee had the following questions and comments:

- In response to Committee's query about the maximum building height, Staff explained it is the requirement specified in the proposed "Assembly" zone.

- Committee asked how the properties along No. 5 had been monitored to ensure the property owners continue to farm the backlands and whether the restriction is enforceable. Staff explained as restrictive covenants are registered on titles of the most sites, it is enforceable. Staff also periodically check and receive complaints or information from neighbours.

- Discussion ensued with regard to fill issues in the ALR and Committee noted that any illegal activities should be carefully monitored.

- Committee also noted the importance of a "succession plan" to ensure that the backlands are continued to be farmed by future owners. Community members acknowledged that the agricultural plan is solid and provides a good amount of details. Committee noted that, if the plan is followed through, it will be successful and continuity over time is the key.

- Committee invited the applicants to the table. The project architect, Matthew Cheng, introduced himself and noted that other consultants, including the agrologist, was also in attendance.

- Committee requested further details of the proposed drainage tile and noted a 4" drainage tile is typical for blueberry farming and no sock to be attached as it is not good for organic soil.

- Committee expressed concerns about details of the proposed drainage plan. It was noted that, if the City does not permit the site to be connected to the City's storm sewer system it will likely become an issues for neighbouring sites.

- Committee was glad to see soil will be recaptured and reused on the site rather than brought from outside.

- In response to Committee's question about residential units in assembly buildings, Staff noted that the use is often included in institutional developments as an accessory use.

- Committee also asked if there would be any parking issues. Staff noted that the current proposal shows it meets the parking requirement. In reply to Committee's question about special event parking arrangement, the representative from the Hindu society noted that they had secured an agreement with neighbours; in case of special events, the neighbouring site could be used for additional parking.

- As the farm is proposed be used for non-commercial purposes, it was suggested that the congregation consider opportunities with other non-profit community group.

The following motion was passed:

That the non-farm use application for a new Hindu temple at 8100 No. 5 Road be supported subject to the following conditions:

1. *Additional organic soil to be retained on the site as per the recommendations included in the agrologist report;*

2. *The drainage tile to be a minimum of 4" in size and not to have a sock; and*

3. *An alternative drainage plan to be brought forward for Committee's review and comments if the City does not allow the site to connect to the City's storm sewer system.*

Carried Unanimously

Agricultural Plan

8100 No. 5 Road
Richmond, BC

Prepared for:
Aruf Migu Thurkadevi Hindu Society of BC
7468 Edmonds Street
Burnaby, BC
V3N 1B2

Prepared by:
Pottinger Gaherty Environmental Consultants Ltd.
#1200 – 1185 West Georgia Street
Vancouver, BC
V6E 4E6

PGL File: 3587-02.01

December 2014

PGL

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PGL

LIST OF FIGURES

LIST OF APPENDICES

List of Acronyms

AMT	-	Arul Migu Thurkadevi
ESA	-	Environmentally Sensitive Area
PGL	-	Pottinger Gaherty Environmental Consultants Ltd.
PID	-	Parcel Identification Number

1.0 INTRODUCTION

Pottinger Gaherty Environmental Consultants Ltd. has been retained by the Arul Migu Thurkadevi (AMT) Hindu Society to develop an agricultural plan for the property located at 8100 No. 5 Road, Richmond, BC (the Site; Figure 1). Construction of the proposed temple and ancillary parking requires submission of a non-farm use application for the portion of the property fronting No 5 Road to the City of Richmond and Agricultural Land Reserve. The remaining portion of the property will be used for active agricultural purposes. This requires summarizing the capabilities and requirements to develop an agricultural use and farm implementation plan for submission to the City of Richmond and the Agricultural Land Commission.

Our report includes a description of the Site and Site soils, summarizes the Site's capabilities for farming, and provides an agricultural use and farm implementation plan. At this time, blueberry production has been planned for the Site and the farm implementation plan reflects soil requirements for blueberry production.

Specifically, the scope of our work includes a review of the following considerations and requirements:

- Topsoil: Develop a topsoil salvage and management plan;
- Drainage: Design a subsurface drainage plan for the agricultural portion of the property;
- Irrigation: Develop a crop irrigation system for the agricultural area; and
- Crop Alternatives: Suggest possible suitable agricultural uses for the agricultural portion of the property.

2.0 SITE DESCRIPTION

The Site is located on the east side of No. 5 Road, south of Blundell Road in Richmond, BC (Figure 1). The surrounding area is characterized by:

- North: institutional;
- West: institutional;
- South: agricultural and institutional; and
- East: agricultural.

2.1 Legal Description

The Site is comprised of one parcel. The legal description of the parcel is:

- 2 Sec 19 BLK4N RG5W PL 4090 Except Plan S115. The Parcel Identification Number (PID) is 003-413-110.

2.2 Zoning and Current Land Use

The Site is zoned by the City of Richmond as AG1 (traditional sites zoned for agriculture), and lies within the Agricultural Land Reserve. The Site is also designated as an Environmentally Sensitive Area (ESA) within the City of Richmond Official Community Plan. The ESA designation is Old Fields and Shrublands. The Official Community Plan has also identified the property as Agriculture and Community Institutional.

The City of Richmond considers Old Fields and Shrublands to be old fields and shrublands temporarily (>2 years) or permanently abandoned as agricultural or cleared lands that support mixed grass, forb, and shrub vegetation. Grass and shrub vegetation is often intermixed with increasing shrub cover after 10 years without mowing. Old field and shrubland is a man-made habitat type associated with the changing pattern of farming in agricultural landscapes, particularly the abandonment of farms.

2.3 Soils

2.3.1 B.C. MOE Mapping

The 1:25,000 scale published soils mapping in the RAB Bulletin 18: Soils of the Langley-Vancouver Map Area indicate the Site as Triggs-Lumbum soil complex. Triggs-Lumbum soil complex consists of up to 2m of partially- to well-decomposed organic matter overlying fine textured mineral deposits. Richmond soil series consists of 0.4 to 1.6m of well-decomposed organic matter overlying fine-textured deltaic deposits. Triggs-Lumbum soil complex are poorly drained and acidic in nature.

2.3.2 Current Onsite Inspection

The subject property indicated evidence of surficial disturbance. The western portion had areas of gravel fill, including a driveway along the north property line and a footprint of a former structure near the south property line. A raised portion of the north side of the property has been covered in sawdust or hog fuel.

2.4 Land Use

2.4.1 Subject Property

The subject property is +/-1.1 hectare in area, and had a single-family residence, garage, shed and two metal shipping containers located on the western portion of the Site.

The property owners intend to redevelop a portion of the property in the western portion of the property extending 110m from the western property line.

2.5 Drainage Conditions

There was no drainage system on the property. The water table is at or near the surface in winter. There was no standing water on the Site at the time of the Site inspection. There are no ditches adjacent to the property.

3.0 PROPOSED LAND IMPROVEMENTS

3.1 Soil Conservation and Management

3.1.1 Soil Salvage and Use

Topsoil from the proposed building development area is proposed for salvage and use on the eastern agricultural portion of the property. The surface soil on the proposed assembly use area is poor quality. The underlying organic soils are assumed to be of good quality. Site preparation of the built area will require removal of the organic soils and preload of the underlying silts with sand.

The poor quality fill and gravel should be removed from the entire Site. The underlying organic soil should be excavated to the silt boundary and placed in an even layer over the agricultural portion of the Site.

Stumps located within the area that are intended for agricultural production should be removed to increase the farmable area.

3.1.2 Soil Management

In south-coastal BC, blueberries have traditionally been grown on highly organic soils with an organic matter content of 20 to 50%. They can also be grown successfully on mineral soils including silt or sandy loam. They, however, do not perform well in wet soils or heavy, poorly-structured clay soils. The Site's organic soils have a very high water-holding capacity, which will require attentive drainage management to ensure good plant growth and prevent soil decompression due to over-draining.

Maintaining soil cover with temporary cereal crops, permanent grass cover or other ground cover vegetation is very important in maintaining good surface infiltration and soil capacity.

Soil fertility amendments should be implemented based on soil test results, and fertilizers should be applied at the recommended rates for the specific vegetation.

Blueberries do best in acid soil with a pH range of 4.5 to 5.2. A pH outside this range can result in poor growth and low yields. A soil test should be used to determine the nutrient status and soil pH before conducting the first planting, at least six months before planting so that any amendments can be added as the field is prepared. Sampling will be conducted based on direction from an agricultural consultant or soil laboratory (for laboratory listings, refer to the BCAGRI publication, "Resources for Berry Growers").

Prior to planning, soils will be tilled to depth between 6 to10 inches to prepare a suitable seedbed using either cultivators, harrows or rotovators. Due to the fine textured nature of the soils, tilling will only be conducted when moisture content is ideal.

3.2 Drainage

3.2.1 Drainage Rationale

Plants cannot tolerate extended periods of flooding especially when they are actively growing. Poorly drained soil can result in poor plant growth, poor yield, root rot, and plant death. A water table maintained at least 60cm (24in) below the soil surface is best for blueberry production. A subsurface drainage system is recommended for this Site to supply water table control.

3.2.2 Design Parameters

The proposed subsurface drainage system design was based on Site-specific information, crop requirements and climate data for Richmond, BC.

The guidelines in the BC Agricultural Drainage Manual (1997) were used for general reference, in addition to local experience and Site-specific information, to develop the drainage system installation design.

Lateral drain spacing was set at 10.0m with an average drain depth of 1.1m ranging between 1.0-1.2m to accommodate the required drain slope of 0.1% to the mainline collector.

3.2.3 Drain Lateral Lines

Drainage lines will be installed using a trenchless plow or backhoe. Perforated polyethylene corrugated drain pipes (Big O) fitted with a nylon sock will be used for the lateral drains. The drain slope would be 0.1% to the mainline connector.

The City of Richmond does not permit mechanical lift of drainage water into the municipal storm drain system; therefore, a gravity connection between the collector catch basin and the parking lot storm water collection system will be required. If the City of Richmond refuses to allow discharge of drainage from farmed development areas into the municipal storm sewer system on No. 5 Road, the drainage system will be designed to discharge the subsurface drainage water into the eastern portion of the ESA area and infiltrate naturally into the ground.

4.0 IRRIGATION

4.1 Irrigation Water Sources

In the south coast region of BC, rainfall is generally inadequate in July and August and supplemental irrigation is necessary. Municipal water is available from the City of Richmond municipal water system to supplement irrigation. The small size of the Site and portion intended for agriculture makes use of municipal water the most practical source of irrigation water.

Irrigation should be provided by a 2" service-fitted line with a double check valve meeting the local code for irrigation supply. This should be installed as part of the new water service for the Site during redevelopment. A 2" buried PVC Schedule 40 mainline should be installed. Standpipes with quick-connect valves installed at 30m intervals along the line are recommended to facilitate the connection of surface irrigation equipment.

Drip irrigation is recommended to maximize water efficiency as water is delivered directly to the root zone providing more consistent and even soil moisture. Fertilizers can also be injected into the irrigation water. The drainage system should be drained following harvest to prevent winter frost damage.

5.0 CROP ALTERNATIVES

5.1 Suitable Crops

Site soils are mapped as a Triggs-Lumbum complex whose dominant soil limitations include very poorly-drained, infertile and acidic soils. A selection of suitable crops can be successfully produced on the property following appropriate management inputs in addition to the proposed soil salvage and improved irrigation. Management inputs required to increase the agricultural capability include a water-management system to improve drainage, and lime and/or fertilizer application to manage the soil pH and naturally low fertile conditions associated with these soils.

Suitable crops identified for these soils by Bertrand et al. (1991)[1] includes: annual legumes, blueberries, cereals, cole crops, corn, perennial forage crops, root crops, and shallow rooted annual vegetables.

[1] Bertrand, R.A., Hughes-Games, G.A. and Nikkel, D.C. 1991. Soil Management Handbook for the Lower Fraser Valley. BC Ministry of Agriculture, Fisheries and Food.

The AMT Hindu Society intends to grow a selection of vegetables and flowers on a portion of the agricultural lands that will be used as part of the Temple services. After assessing potential crop options for the remainder of the agricultural land. Based on an assessment of agricultural suitability including consideration of adjacent land use, parcel size, and activities which would be compatible with the temple use, AMT Hindu Society identified blueberry production as the intended land use. AMT Hindu Society has identified a third party who will be responsible for blueberry production including planting and harvest.

Existing trees outside of the Temple development area will be protected as required by the ESA.

5.1.1 Proposed Agricultural Operator

Arul Migu Thurkadevi (AMT) Hindu Society and PGL have consulted with a number of agricultural operators in the Lower Mainland to identify a suitable operator to manage the proposed blueberry operation. After inspecting the site all of the commercial operators decided not to move forward with the lands as they consider the parcel to be too small and not commercially viable. AMT Hindu Society however is not interested in commercializing the operation and intends to produce farm products for charity and community purposes as well as self-consumption.

To support the intended agricultural operation, AMT Hindu Society intends to utilize members of their organization who are established active farmers and labourers who reside in Richmond and are willing to assist with the farm operation. Additional labour will be provided by community elders and retirees who will do voluntary work under the guidance of the established farmer.

Daily and seasonal operations following planting will be based on the BC Ministry of Agriculture's blueberry management schedule, developed as part of the Berry Production Guide, a general guide to blueberry management based upon plant and pest development. Timing and associated actions are provided in Appendix 2.

5.1.2 Proposed Planting Plan

The property owner has identified blueberry production as the intended agricultural crop for the Site. The plant spacing is based on feedback received from local farmers while additional recommendations are based on the BC Ministry of Agricultures Berries Production Guide. Recommendations are summarized below.

- In-row spacing between blueberry bushes is 1.5m.
- Distance between rows 3m.
- Fall planting will be conducted if warranted as it allows quicker plant establishment in coastal regions.
- Two-year old nursery-grown plants will be used to establish a planting. Fertilize plants set out in the spring three to four weeks after planting. Two or more applications may be required through the first growing season.
- Plants will be set at the same depth as they were in the pot or nursery.
- Cover crops may include permanent grass covers between the rows, which will suppress weeds, provide support for farm machinery, improve soil structure and water infiltration and reduce soil erosion. Grasses that work best are low-growing perennials that are easy to establish and do not creep. Mixtures should contain no more than 25% perennial ryegrass to minimize mowing. Pure stands of sheep fescue or hard fescue establish slowly but withstand traffic well and require less mowing.
- If grass is selected for a cover crop, seeding is recommended to occur in spring or early fall (September). Seed mixtures at 30 to 55kg/ha (12 to 22kg/acre) and fescues at 30 to 45kg/ha (12 to 18 kg/acre).

Based on the planting plan, AMT Hindu Society intends to plant approximately 815 blueberry bushes.

Access to the agricultural lands will be provided through establishment of a gravel farm access road along the north property boundary.

Vegetated buffers including a variety of edible and ornamental plants will be established between the ALR lands and the adjacent property and the proposed temple. A planting plan is provided in AMT Hindu Society's submission.

6.0 AGRICULTURAL IMPROVEMENT COST ESTIMATE

Topsoil Salvage	
Strip and load topsoil from development area 3250m^3 @ $5.00	$16,250
Place and grade on agricultural area, 1,500m^3 @ $2.00	$3,000
Subtotal Topsoil Salvage	**$19,250**
Drainage System	
Supply and install lateral drains 450m @ $7.00	$3,150
Supply and install buried mainline 110m @ $30.00	$3,300
Connections to built area storm system (if approved)	$3,000
Subtotal Drainage System	**$9,450**
Irrigation System	
Municipal services connection	$4,000
Irrigation piping	$3,000
Irrigation equipment	$4,000
Subtotal Irrigation System	**$11,000**
Planting	
Blueberry bush purchase 815 bushes @ $15	$12,225
Labour for planting 400 hrs @ $15/hr	$6,000
Soil preparation (machinery and amendments)	$2,000
Subtotal Planting	**$20,225**
Total Estimated Cost	**$59,925**

7.0 SUMMARY AND CONCLUSIONS

The Site's agricultural capability is primarily limited by poorly-drained, naturally infertile and acidic soil. Poor-quality fill on the western portion of the Site intended for development of the Temple also limits the Site's agricultural production potential. The proposed agricultural management inputs, including soil amendments and improved drainage, will dramatically improve the agricultural capability and increase the range of crops that can be produced on the Site.

PGL proposes segregation of topsoil during construction of the Temple. Soil suitable for segregation will be spread across the eastern portion of the Site to improve the soil's agricultural capability and ensure the conservation of topsoil.

Respectfully submitted,

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD.
Per:

Ashleigh Gilbert; M.Sc., A.Ag.
Environmental Scientist

Stewart Brown, M.Sc., P.Ag., R.P.Bio.
Senior Environmental Scientist

AAG/CSB/mtl/slr
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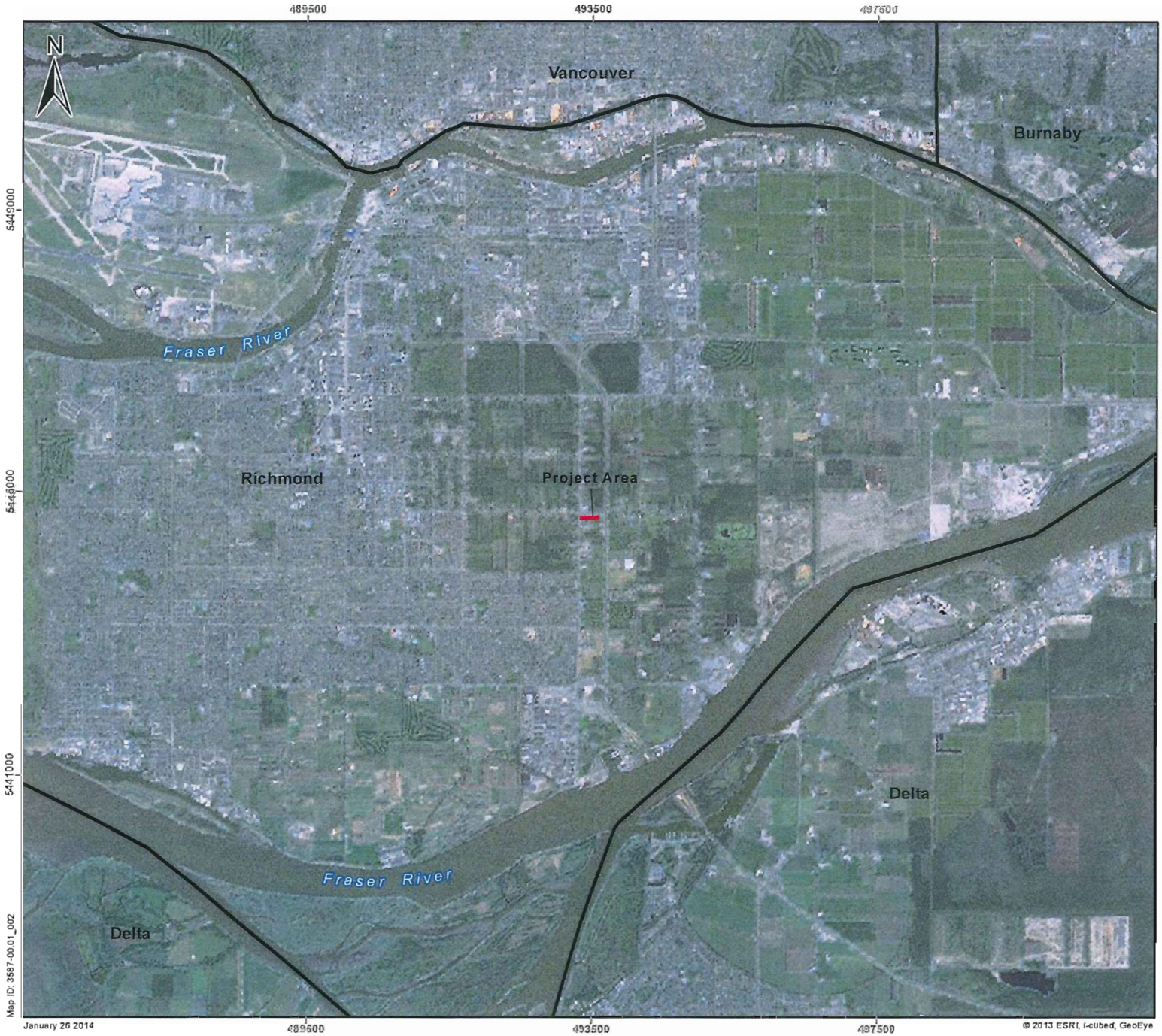
Figures



Site Location

Project Location

1:75,000
0 1,000 2,000
Metres
Coordinate System: NAD 1983 UTM Zone 10N

PGL Pottinger Gaherty

Figure 1

Site Plan

8100 No 5 Rd

Property Line

1:1,400

0 25 50

Metres

Coordinate System: NAD 1983 UTM Zone 10N

PGL Pottinger Gaherty Environmental Consultants Ltd.

Figure 2

Drainage Plan

- Collector Basin
- Drainage Line
- Development Area
- 8100 No 5 Rd
- Property Line

1:1,400

0 25 50

Metres

Coordinate System: NAD 1983 UTM Zone 10N

PGL Pottinger Gaherty Environmental Consultants Ltd.

Figure 3

Appendix 1

Site Photographs

Photograph 1:

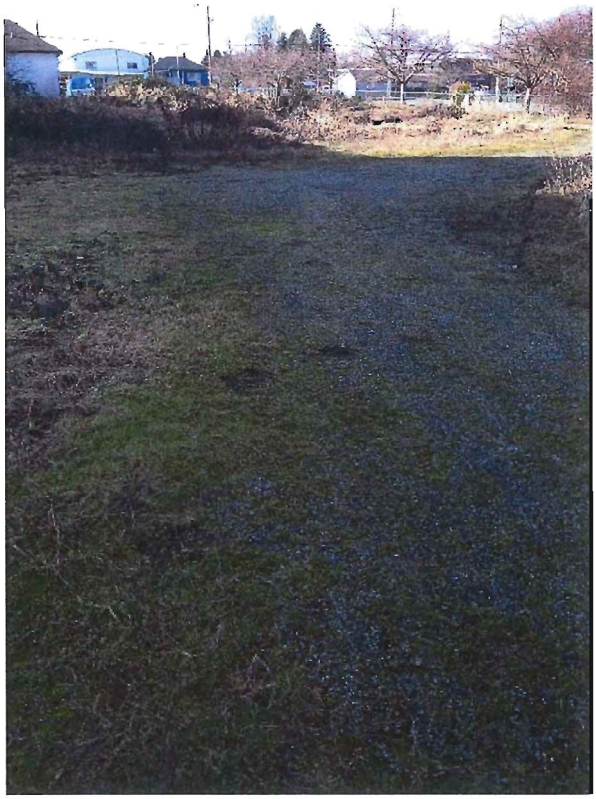
Looking west from the eastern end of the Site

Photograph 2:

Eastern portion of the Site. Land use to the south and north is consistent with the proposed development.

Photograph 3:

Organic soils in the eastern portion of the property



Photograph 4:

Coarse fill in the proposed development area which will be segregated from organic soils

Photograph 5:

Coarse fill that will require segregation

Photograph 6:

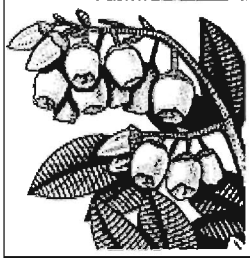
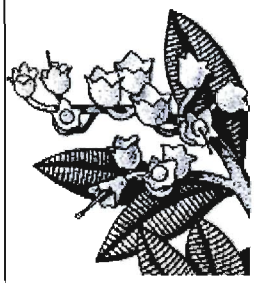
Topsoil which will be salvaged and applied to the agricultural portion of the Site

Appendix 2:

Blueberry Management Schedule
(After BC Ministry of Agriculture, Berry Production Guide, 2012)

Timing	Type of Action	Action
JANUARY / FEBRUARY Plants dormant 	**Plant Care**	• Prune beginning after leaf drop. Be sure to remove diseased and dead wood.
	Disease Control	• Apply copper oxychloride or Bordeaux mixture for bacterial blight. For mummy berry control, watch for development stage when leaf buds show 5 mm of green tissue. Also check for open mummyberry cups. Prepare to spray fungicide, as required. (February/March)
	Insect Control	• Check for scale and apply dormant oil and/or lime sulfur spray by mid-February (before bud break), if required. Also helps to control leafroller, spanworm, wintermoth eggs and larvae.
	Weed Control	• Apply pre-emergent herbicides before weed growth starts.
	Other	• Ensure sprayers are tuned-up and calibrated.
MARCH Buds start to swell 	**Plant Care**	• **New plantings.** Begin land preparation for spring plantings.
	Disease Control	• Continue to check growth of leaf buds and mummy berry cups. Apply fungicide to protect developing buds from mummy berry as necessary at critical growth stage. Apply Ridomil for root rot control, if required. • Apply copper oxychloride for bacterial blight, as necessary.
	Soil Care	• Seed grasses for permanent cover between rows when soil can be worked. Apply sawdust mulch to beds, if needed.
	Weed Control	• Apply pre-emergent herbicides before weed growth starts if not applied earlier.
	Food Safety	• Ensure a food safety plan is in place including a record keeping system.

LATE MARCH TO LATE APRIL Leaf and flower bud break 	**Plant Care**	• Make first fertilizer application (mid April). • ***New plantings.*** Set out new plants as conditions permit (up to mid May).
	Disease Control	• Continue to apply fungicide for primary mummyberry control, as required. • Apply copper oxychloride for bacterial blight, if necessary. If not done earlier, apply Ridomil for root rot control, if required.
	Insect Control	• Apply recommended prebloom insecticides to control aphids and minimize spread of blueberry scorch virus. Start weekly checks of swelling blossom buds for hatching spanworm, winter moth (late March), and caterpillars blown to fields from outside areas. Apply controls as needed. Start weekly checks for leafrollers, looking at blossom clusters and rolled leaves.
	Weed Control	• Control weeds by cultivation and/or herbicides. Apply herbicides for quackgrass and other perennial weed control.
	Other Pests	• Watch for snails and slugs - control as required.
	Soil Care	• Seed grasses for permanent cover between rows if not done earlier. Apply sawdust mulch, if needed and not done earlier.
LATE APRIL/MAY Blossoming	**Plant Care**	• Place bee hives in field when 10% of blossoms are open. Protect hives from bears where necessary. Remove hives from fields when blossoming is over.
	Disease Control	• Monitor all fields for symptoms of blueberry scorch and blueberry shock. Watch for mummy berry infections on flowers and shoots and apply fungicides if needed. Apply fungicides for Botrytis blight and/or Anthracnose (fruit rots) if wet weather is anticipated.
	Insect Control	• Continue to watch for leafrollers and control as needed. Monitor for aphids. Control aphids after bloom is finished and bees have been removed from the field. Apply sprays only if predator numbers are low and aphids are increasing.

 	**Weed Control**	• Cultivate for weed control in row middles or mow cover crop, as appropriate. Apply directed treatments of non-residual herbicides, if needed, observing days to harvest interval.
	Soil Care	• Watch for poorly drained areas in fields. Plan fall drainage improvements.
	Food Safety	• Test irrigation and spray water for E. coli and fecal coliforms. Order toilets, hand washing units and other sanitary supplies.
JUNE Fruit development 	**Plant Care**	• Make second fertilizer applications up to mid-June. Irrigate as necessary.
	Disease Control	• Apply fungicides for Botrytis (fruit rot) and Anthracnose (ripe rot) if weather is wet during the fruit development period. Monitor for root rot symptoms and mark affected areas. Apply Aliette if necessary.
	Insect Control	• Continue to watch for leafrollers and spanworms to late June, control as needed. Continue to monitor for aphids especially in scorch infected fields. Control as required. Prune out and destroy branches with tent caterpillars before end of June when caterpillars leave the nest.
	Weed Control	• Cultivate for weed control in row middles or mow cover crop, as appropriate. Apply directed treatments of non-residual herbicides, if needed. Observe pre-harvest intervals.
	Other Pests	• Prepare bird predation management plan. Install bird control devices or erect bird netting.
	Soil Care	• **New plantings.** Start to prepare land for new fall plantings.
	Food Safety	• Place portable toilets and hand washing units. Ensure workers are trained in good hygiene and harvesting practices.

JULY Fruit development and ripening 	**Plant Care**	• Monitor soil moisture and irrigate as necessary.
	Disease Control	• Sample berries from each field and store at room temperature to assess fruit rot levels. Monitor for root rot symptoms and mark affected areas. Apply Aliette if necessary.
	Insect Control	• Continue to monitor insect pests, control only if needed. • Monitor for spotted wing Drosophila (SWD) and apply protective sprays after fruit ripens.
	Other Pests	• Install bird control devices, or erect bird netting if not done earlier.
JULY - SEPTEMBER Harvesting 	**Plant Care**	• Harvest and market fruit. Collect plant tissue samples (mid July to mid August) for nutrient analysis. Irrigate as needed.
	Disease Control	• Continue to apply fungicides for Botrytis, Anthracnose, and other fruit rot diseases, if weather is wet. Observe days to harvest interval. Prune out branches killed by Godronia canker (red flagging) or bacterial blight and destroy.
	Insect Control	• Continue to apply protective sprays to control spotted wing Drosophila. Apply insecticides to control aphids and young scale if required. Observe pre- harvest intervals. Prune out and destroy branches with tent caterpillars (from mid July). Watch for scale "crawlers" from late July to August and control if needed.
	Other Pests	• Control birds following approved guidelines.
	Soil Care	• Continue to mow cover crop as needed. • **New plantings.** Install drainage, if needed. Monitor soil pH and adjust as necessary. Incorporate sawdust or compost in planting beds as required.
SEPTEMBER Post harvest growth	**Plant Care**	• Irrigate as necessary.
	Disease Control	• Apply copper spray for bacterial blight before fall rains start. Prune out diseased wood.

PGL

	Insect Control	• Prune out and destroy caterpillar tents before mid September when caterpillars drop to the ground for the winter.
	Other Pests	• Remove bird control devices and netting after harvest.
	Soil Care	• Take soil samples for analysis, if needed. Check pH of soil. Apply calcium and magnesium in form of dolomite or sulphur if required. Subsoil between rows when soil is dry, if necessary. Seed grasses for permanent cover between rows. • **New plantings.** Install drainage, if required and not done earlier.
OCTOBER Post harvest growth	**Plant Care**	• Continue to prune out and remove diseased wood. • **New plantings**. Set out new plants. Best time to plant container stock in coastal areas.
	Disease Control	• Apply copper spray or Bordeaux Mixture for bacterial blight (total 2 sprays in fall).
	Other Pests	• Check for field mice activity and apply bait, if required.
	Soil Care	• Check pH of soil and apply lime or sulfur, if required. Subsoil between rows when soil is dry, if necessary. Install or improve drainage, as required. Mow cover crop, if required.
	Weed Control	• Monitor weeds. Apply herbicides for grass control, according to label directions.
	Other	• Flush irrigation systems and sprayers to protect against winter damage.
NOVEMBER / DECEMBER Plants dormant	**Plant Care**	• Apply sawdust mulch, if necessary. Order bees for the coming season.
	Weed Control	• Apply Roundup for grass control if not done earlier.
	Other Pests	• Watch for field mice activity and apply bait if needed.

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Memo

PGL File #: 3587-02.01

DATE: March 30, 2015

TO: Arul Migu Thurkadevi Hindu Society

FROM: Stewart Brown

Re: Agricultural Plan - 8100 No. 5 Road, Richmond, BC

Please find following an addendum to Pottinger Gaherty Environmental Consultants December 2014 Agricultural Plan. Changes have been incorporated in the Arul Migu Thurkadevi Hindu Society's application. Changes are based on feedback provide by the City of Richmond and the City of Richmond Agricultural Advisory Committee and include additional detail on the Soil Salvage and Use and Drainage plan.

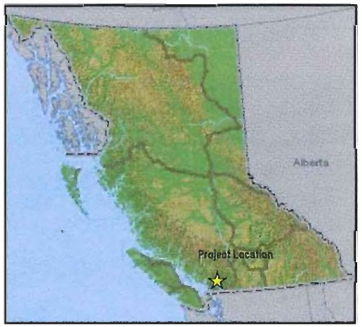
Soil Salvage and Use
As indicated in our December 2014 Agricultural Plan, topsoil from the proposed building development area is proposed for salvage and use on the eastern agricultural portion of the property. The surface soil on the proposed assembly use area is poor quality. The underlying organic soils are assumed to be of good quality.

PGL has estimated that up to 1,500m^3 of suitable soil will be salvaged form the development area which will be spread uniformly across the agricultural portion of the property to a depth of approximately 0.25m to maintain the existing level grade. If more than 1,500m^3 of soil is salvaged it will be spread evenly across the agricultural area.

Drainage
The site drainage plan has been revised since the December 2014 Agricultural Plan to permit discharge of soil water to the municipal storm sewer. Lateral drainage lines (100mm) will now run in a north-south orientation and discharge into a drainage ditch that will run along the south property line before discharging into a sump and into a buried 250mm solid line that will connect to the existing municipal storm sewer. The drainage ditch will also intercept any surface flow originating from the adjacent property to the south.

The previous drainage plan included fitting perforated polyethylene corrugated drain pipes (Big O) with a nylon sock. At the request of the Agricultural Advisory Committee, the nylon sock will no longer be included in our design.

To ensure that the drainage lines do not actively dewater the site, pipes will be positioned above the sites water table and provide approximately 0.20 of freeboard.



Drainage Plan

- Inspection Chamber
- Sump
- Lateral Line
- Ditch
- Pipe

Length - 100mm / 0.1/100 — Length - Diameter (above) Grade (below)

- Development Area
- 8100 No 5 Rd
- Property Line

1:850

0 30 60

Metres

Coordinate System: NAD 1983 UTM Zone 10N

PGL Pottinger Gaherty Environmental Consultants Ltd.

Figure 1