



SPECIAL MEETING OF TOWNSHIP COUNCIL

Monday, May 3, 2010, at 3:00pm
Fraser River Presentation Theatre
4th Floor, 20338 – 65 Avenue, Langley, BC

A G E N D A

Page

A. ADOPTION OF MINUTES

1-12

1. Special Council Meeting – April 26, 2010

Recommendation that Council adopt the Minutes of the Special Council meeting held April 26, 2010.

B. APPROVAL OF DELEGATION REQUESTS TO APPEAR AT THE 4:00PM SPECIAL MEETING

B. APPROVAL OF DELEGATION REQUESTS TO APPEAR AT THE 7:00PM REGULAR MEETING

MOTION TO RESOLVE INTO SPECIAL CLOSED MEETING

Recommendation that Council now resolve into a Special Closed Meeting for discussion of the following items, in accordance with and as identified under Section 90 of the Community Charter:

- Item C.1 - Section 90(1) (e) Property;
- Item D.1 - Section 90(1) (e) Property;
- Item D.2 - Section 90(1) (e) Property; (g) Legal; (k) Negotiations; and
- Item G.1 - Section 90(1) (e) Property; (k) Negotiations.

C. PRESENTATIONS

1. Derek Doubleday Arboretum Master Plan

Presentation by staff regarding the Derek Doubleday Arboretum Master Plan.

Clerk's Note: Council requested presentation at the March 15, 2010 Special Council meeting.

Page

D. REPORTS TO COUNCIL

13-84

- 1. Derek Doubleday Arboretum Master Plan and Programming Report
Report 10-57
File RCP 6130-20**

Recommendation that Council receive the report entitled "Derek Doubleday Arboretum Master Plan and Programming Report" for information;

That the "Derek Doubleday Arboretum Master Plan and Programming Report" be adopted to guide future development of the site; and further

That staff be directed to work with the Arboretum and Botanical Society of Langley to develop funding and an implementation plan for Council consideration as part of future budget processes.

85-93

- 2. Annual Report for Fire Department for 2009
Report 10-64
File FIRE 7380-20**

Recommendation that Council receive for information the Annual Report for the Fire Department for 2009.

E. CORRESPONDENCE

F. MINUTES OF COMMITTEES

95-101

- 1. Recreation, Culture, and Parks Advisory Committee – April 14, 2010
File 0540-20**

Recommendation that Council receive the Minutes from the Recreation, Culture, and Parks Advisory Committee meeting held April 14, 2010.

G. ASSOCIATIONS AND OTHER GOVERNMENT AGENCIES

H. INFORMATION ITEMS FROM SPECIAL CLOSED MEETINGS

Page

I. **ITEMS FOR INFORMATION**

J. **ITEMS FROM PRIOR MEETINGS**

K. **STAFF ITEMS FOR DISCUSSION WITH COUNCIL**

L. **ITEMS FOR DISCUSSION BY COUNCIL MEMBERS**

M. **OTHER BUSINESS**

1. At the April 26, 2010 Special Meeting of Council, Councillor Richter provided the following Notice of Motion:

Gurdip Buttar – Driveway Costs

Be it resolved that the original cost estimate for Mr. Gurdip Buttar's driveway be honoured.

N. **TERMINATE**



SPECIAL MEETING OF TOWNSHIP COUNCIL

Monday, April 26, 2010 at 3:00pm
Fraser River Presentation Theatre
4th Floor, 20338 – 65 Avenue, Langley, BC

MINUTES

PRESENT: Mayor Green

Councillors J. Bateman, B. Dornan, S. Ferguson, C. Fox, M. Kositsky, B. Long,
K. Richter, and G. Ward

M. Bakken, C. Corfe, D. Leavers, R. Seifi, H. Tsikayi, J. Winslade, and C. Wright

K. Larsen, D. McCormick, S. Palmer, and K. Stepto

A. ADOPTION OF MINUTES

1. Special Council Meeting – April 12, 2010

Moved by Councillor Bateman,
Seconded by Councillor Dornan,
That Council adopt the Minutes of the Special Council meeting held
April 12, 2010.

CARRIED

B. APPROVAL OF DELEGATION REQUESTS

Moved by Councillor Fox,
Seconded by Councillor Ward,
That Council approve the following delegation requests, including
six delegation requests for the 7:00pm Regular Council meeting:

4:00pm

1. Joy Wilson Early Childhood Committee File 0550-07

Request by Joy Wilson, Early Childhood Committee, to appear before
Council to provide a profile of young children aged 0 - 5 years in Langley.

B. APPROVAL OF DELEGATION REQUESTS

2. John Mellis
File 0550-07

Request by John Mellis to appear before Council to discuss the water line route for the East Langley water supply.

3. Harvey Wooff
File 0550-07

Request by Harvey Wooff to appear before Council to discuss the water line route for the East Langley water supply.

4. Doug McFee
File 0550-07

Request by Doug McFee to appear before Council to discuss the East Langley pipes.

5. Pam Erikson
File 0550-07

Request by Pam Erikson to appear before Council to discuss the East Langley water line proposal.

7:00pm

6. Nigel Thom
File 0550-07

Request by Nigel Thom, to appear before Council to discuss the Fibromyalgia Well Spring Foundation.

7. Michelle Nicholls
File 0550-07

Request by Michelle Nicholls, to appear before Council to discuss her opposition to "Land Fill Farms".

8. Susan Leyland
File 0550-07

Request by Sue Leyland, to appear before Council to discuss the fill site at 1890 – 232 Street.

9. Margaret Ormston
File 0550-07

Request by Margaret Ormston, to appear before Council to discuss the impact of landfills on Langley residents, its waters and soils.

B. APPROVAL OF DELEGATION REQUESTS

10. Nina Robinson
File 0550-07

Request by Nina Robinson, to appear before Council to discuss the fill deposit at 411 and 205 – 256 Street.

11. Marlow Pellatt
File 0550-07

Request by Marlow Pellatt, to appear before Council to discuss the proposal to designate 208 Street as a truck route.

CARRIED

MOTION TO RESOLVE INTO SPECIAL CLOSED MEETING

Moved by Councillor Ward,
Seconded by Councillor Dornan,
That Council now resolve into a Special Closed Meeting for discussion of the following items, in accordance with and as identified under Section 90 of the Community Charter:

Item F.1 - Section 90(1) (a) Personnel;
Item G.1 - Section 90(1) (a) Personnel; (e) Property; (k) Negotiations;
Item G.2 - Section 90(1) (e) Property; and
Item G.3 – Section 90(1) (a) Personnel; (e) Property; (k) Negotiations.

CARRIED

MEETING RECESSED

The meeting recessed at 3:02pm.

MEETING RECONVENED

The meeting reconvened at 4:11pm.

B. DELEGATIONS

1. Joy Wilson
Early Childhood Committee
File 0550-07

Joy Wilson, Early Childhood Committee Coordinator, appeared before Council to provide a profile of young children aged 0 - 5 years in Langley. She reported that there are 7,898 children under the age of 5 in Langley; 80% are in the Township and their vulnerability is increasing. She stated that access for all families to programs and services that support children is very important.

B. DELEGATIONS

MOTION

Moved by Councillor Long,
Seconded by Councillor Richter,
That the presentation regarding the East Langley Water Supply Extension
be brought forward.

CARRIED

The agenda order was varied.

C. PRESENTATIONS

1. Provincial Gateway Program

The presentation by Port Mann/Highway 1 Project staff regarding the Provincial Gateway Program was withdrawn.

2. East Langley Water Supply Extension

K. Larsen, Manager Water Resources and Environment, and D. McCormick, Utilities Planning Engineer, provided a presentation regarding the East Langley water supply extension. The reasons for constructing this water supply extension are the growing population in Aldergrove, dropping aquifer levels, water quality concerns, and other supply issues. By constructing this extension the Township will be able to provide an adequate supply of water, improve servicing to residents, strengthen critical infrastructure, and promote good stewardship within the community.

Costing was provided for the three routes reviewed. The next steps include route selection, exploring new grant funding opportunities, determining funding sources, completing preliminary and detailed designs, and construction. The goal is to complete the project by summer of 2012.

Councillor Dornan left at 5:17pm and rejoined the meeting at 5:18pm.

The agenda order then resumed.

B. DELEGATIONS

2. John Mellis
File 0550-07

John Mellis appeared before Council to discuss the water line route for the East Langley water supply. He is in support of the 52 Avenue route to allow schools and residents in the area to connect to this new water supply and have access to clean drinking water. Fraser Highway is his second choice.

B. DELEGATIONS

3. Harvey Wooff

File 0550-07

Harvey Wooff appeared before Council representing the Salmon River Uplands Community to discuss the water line route for the East Langley water supply. He advised this community is in favour of the 52 Avenue route and Fraser Highway route is his second choice.

4. Doug McFee

File 0550-07

Doug McFee, Director of the Salmon River Enhancement Society, appeared before Council to discuss the East Langley pipes. He reported that the Salmon River Uplands should not be a development area, that the moratorium is there for a reason, and that residents do not want to lose the character of the area. The Salmon River Enhancement Society is in support of the proposed 64 Avenue route.

5. Pam Erikson

File 0550-07

Pam Erikson appeared before Council to discuss the East Langley water line proposal. Residents of the North Otter area are concerned that their way of life is in jeopardy. She expressed concerns regarding water quality and noted that many residents are not in favour of any of the proposed routes.

D. REPORTS TO COUNCIL

**1. East Langley Water Supply Update – Public Feedback
Report 10-43**

File ENG 5330-27-32

Moved by Councillor Richter,
Seconded by Councillor Long,
That the following motion be divided.

CARRIED

Moved by Councillor Fox,
Seconded by Councillor Ward,
That Council receive the “East Langley Water Supply Update – Public Feedback” report for information.

CARRIED

That Council consider the 64 Avenue alignment as the preferred route for the East Langley Water Supply extension.

D. REPORTS TO COUNCIL

REFERRAL

Moved by Mayor Green,
Seconded by Councillor Long,
That staff provide a report relative to the original terms of reference, the potential for restrictive covenants, consideration for Metro Vancouver Regional Growth Strategy, and details on possible hybrid route options.

CARRIED

Councillor Bateman opposed

MOTION

Moved by Councillor Richter,
Seconded by Councillor Fox,
That staff undertake a broader public consultation through a telephone survey of residents in the Uplands and Hopington areas; costs to be funded from the Council contingency fund.

DEFEATED

Councillors Bateman, Dornan, Ferguson, Kositsky, Long, and Ward opposed

MEETING RECESSED

Moved by Councillor Long,
Seconded by Councillor Ferguson,
That the meeting be recessed until after the conclusion of the Regular Council Meeting.

CARRIED

The meeting recessed at 6:20pm.

MEETING RECONVENED

The meeting reconvened at 8:42pm

D. REPORTS TO COUNCIL

- 2. Reaffirmation of Council Resolution of
Agricultural Land Reserve Exclusion
Application No. 100173 (McCall)
Report 10-60
File CD 14-07-0035**

Moved by Councillor Fox,
Seconded by Councillor Long,
That Council reaffirm its resolution of February 1, 2010 to support the
Agricultural Land Reserve exclusion application for eight (8) properties
located at 5670 - 264 Street, 26477, 26473, 26575, 26601, 26695 and
26713 - 56 Avenue and 5625 - 268 Street.

CARRIED

Councillors Ferguson and Ward opposed

- 3. Provincial Agricultural Land Commission
Application No. 100184 (Lorad Enterprises Inc.)
Report 10-63
File CD 11-10-0069**

Moved by Councillor Ward,
Seconded by Councillor Long,
That Council support the subdivision application creating two (2) lots of
approximately 19.4 and 13.1 ha (48 and 32.5 acres) to the Provincial
Agricultural Land Commission; and refer the non-farm use application for a
65 lot bare land strata residential subdivision on the southerly 32.5 acre lot
to the Provincial Agricultural Land Commission based on agricultural
considerations.

CARRIED

Councillor Richter opposed

- 4. Langley Agricultural Land Trust
Report 10-59
File CD 0540-20-01**

Moved by Councillor Ward,
Seconded by Councillor Fox,
That Council receive the "Langley Agricultural Land Trust" report for
information;

That Council endorse the concept of a "Langley Agricultural Land Trust";

That Council refer the "Langley Agricultural Land Trust" report to the
Provincial Agricultural Land Commission for comments as to the appropriate
process and structure of a Land Trust; and further

D. REPORTS TO COUNCIL

That Council refer the "Langley Agricultural Land Trust" report to the Agricultural Advisory Committee to incorporate establishing an "Agricultural Land Trust" in the Township of Langley into its Work Program.

CARRIED

5. 2010 Community Grants

Report 10-58

File RCP 1850-20

Moved by Councillor Long,
Seconded by Councillor Ward,

That Council approves the carry forward of unspent 2008 - 2009 Capital Improvement Grants for a total of \$30,836 according to Attachment A;

That Council approves payment for 2010 Capital Improvements Grants for a total of \$60,730 according to Attachment B;

That Council approves payment of Community Grants for a total of \$169,800 for community events / projects and scholarships according to Attachment C;

That Council approves the grant for major community events for a total of \$20,000 according to Attachment D;

That Council approves payment for Utility charges and other levy charges (metered water and sewer) of \$3,800 for the Fort Langley Community Hall according to Attachment D;

That Council approves payment for loss per September 30, 2009 fiscal year end financial statement of \$7,728 to the B.C. Farm Machinery and Agricultural Museum Association according to Attachment D;

That Council approves payment of up to \$2,000 representing \$250 to each Langley secondary school application in support of a Dry Grad as a grant in-kind upon request by a bona fide graduation organization according to Attachment E;

That Council approves payment of banner grants for a total of \$18,991 according to Attachment F;

That Council approves payment for three additional qualifying community grant applications for a total of \$7,500 that were received after the deadline according to Attachment G; and further

That Council retain the balance of available funds of \$3,442 for any additional future grant requests it may authorize in 2010.

CARRIED

D. REPORTS TO COUNCIL

MOTION

Moved by Councillor Bateman,
Seconded by Councillor Ward,
That staff and the Recreation Culture and Parks Advisory Committee review the community grant criteria and application process for the 2011 budget year and provide a comparison with other municipalities' practices.

CARRIED

Councillors Kositsky and Long opposed

MOTION

Moved by Councillor Kositsky,
Seconded by Councillor Ward,
That Council approve funding in the amount of \$7,000 for Langley Lawn Bowling.

DEFEATED

Mayor Green and Councillors Bateman, Dornan, Ferguson, Fox, Kositsky Long, and Richter opposed

E. CORRESPONDENCE

Moved by Councillor Long,
Seconded by Councillor Dornan,
That Council receive the items under Correspondence, as presented.

CARRIED

1. CNIB Day – Vision Health Month

File 0630-01

Letter received from John Mulka, Executive Director, CNIB BC-Yukon requesting that May 27, 2010 be proclaimed as CNIB Day.

2. Action on Alcohol Reform

File 0230-20

Letter from Lembi Buchanan, Chair, BC Coalition for Action on Alcohol Reform requesting that the Township of Langley supports the coalition's initiative to reduce the harms caused by alcohol abuse in our communities.

3. Langley Spirit of BC Committee

File 0540-20

Letter from Michael Jackstien, President, Township of Langley 2010 BC Summer Games Society requesting surplus of funds from the Langley Spirit

E. CORRESPONDENCE

of BC Committee be redirected to the Langley 2010 BC Summer Games Society.

MOTION

Moved by Councillor Fox,
Seconded by Councillor Long,
That Council redirect the surplus of funds from the Langley Spirit of BC Committee to the Township of Langley 2010 BC Summer Games Society.

CARRIED

**4. Langley Mental Health Community Advisory Committee
Grant Request
File 1850-01**

Letter received from Renee Poley, Chairperson, Langley Mental Health Community Advisory Committee requesting a community grant in the amount of \$600 for a Mental Health Public Awareness and Education event to be held in Langley on May 6, 2010.

MOTION

Moved by Councillor Richter,
Seconded by Councillor Ward,
That Council approve funding in the amount of \$600 for a Mental Health Public Awareness and Education event to be held in Langley on May 6, 2010 from Council Contingency.

CARRIED

F. MINUTES OF COMMITTEES

Moved by Councillor Bateman,
Seconded by Councillor Long,
That Council receive for information the minutes of Committees, as presented.

CARRIED

**1. Heritage Advisory Committee – April 6, 2010
File 0540-20**

Minutes from the Heritage Advisory Committee meeting held April 6, 2010.

2. Economic Development Advisory Committee – April 7, 2010

Minutes from the Economic Development Advisory Committee meeting held April 7, 2010.

F. MINUTES OF COMMITTEES

3. Aldergrove Planning Committee – April 8, 2010
File 0540-20

Minutes from the Aldergrove Planning Committee meeting held
April 8, 2010.

G. ASSOCIATIONS AND OTHER GOVERNMENT AGENCIES

H. INFORMATION ITEMS FROM SPECIAL CLOSED MEETINGS

I. ITEMS FOR INFORMATION

J. ITEMS FROM PRIOR MEETINGS

K. STAFF ITEMS FOR DISCUSSION WITH COUNCIL

L. ITEMS FOR DISCUSSION BY COUNCIL MEMBERS

M. OTHER BUSINESS

1. Vehicle Weight Restrictions

Moved by Councillor Ferguson,
Seconded by Councillor Richter,
Whereas there has been a number of concerns raised by residents
regarding fill deposits in the Township of Langley; and

Whereas the concerns lay not only in soil deposits, but in truck and vehicle
traffic throughout the communities, including non-designated truck routes;
therefore

Be it resolved that staff explore the possibility of placing weight restrictions
on certain roads within the community, and that these weight restrictions
apply to trucks and vehicles transporting heavy loads of material throughout
the community.

M. OTHER BUSINESS

REFERRAL

Moved by Councillor Ferguson
Seconded by Councillor Richter
That this motion be referred to the Council Priorities Meeting on Thursday,
April 29, 2010
CARRIED

2. Mayor's Forum Advertising

Councillor Ward made a comment regarding advertising for the Mayor's Forum.

3. Closure of Glenwood Elementary School

Councillor Richter commented on correspondence sent by the Mayor regarding the closure of Glenwood Elementary School.

4. Councillor Richter provided the following Notice of Motion for consideration at the next Special Council Meeting:

Gurdip Buttar – Driveway Costs

Be it resolved that the original cost estimate for Mr. Gurdip Buttar's driveway be honoured.

N. TERMINATE

Moved by Councillor Bateman,
Seconded by Councillor Dornan,
That the meeting terminate at 9:48pm.
CARRIED

CERTIFIED CORRECT:

Mayor

Deputy Township Clerk

Township of
Langley



Est. 1873

REPORT TO MAYOR AND COUNCIL

PRESENTED:	MAY 3, 2010 - SPECIAL MEETING	REPORT:	10-57
FROM:	RECREATION, CULTURE, AND PARKS DIVISION	FILE:	6130-20
SUBJECT:	DEREK DOUBLEDAY ARBORETUM MASTER PLAN AND PROGRAMMING REPORT		

RECOMMENDATIONS:

That Council receive the report entitled “Derek Doubleday Arboretum Master Plan and Programming Report” for information;

That the “Derek Doubleday Arboretum Master Plan and Programming Report” be adopted to guide future development of the site; and further

That staff be directed to work with the Arboretum and Botanical Society of Langley to develop funding and an implementation plan for Council consideration as part of future budget processes.

EXECUTIVE SUMMARY:

Staff has continued to work with stakeholders on the development of a Master Plan for the Derek Doubleday Arboretum with the guidance of a consulting team. The firm of Lees & Associates Ltd. has completed a Master Plan and Programming Report that will guide future development of the site. The Master Plan has responded to the identified opportunities and constraints of the site and created a plan for a unique park that once completed will add a significant recreational and environmental educational destination for Township residents. With Council’s direction, staff will continue to work with the Arboretum and Botanical Society of Langley to develop phasing and funding options for future Council consideration.

PURPOSE:

To seek Council’s adoption of a Master Plan and Programming Report for the Derek Doubleday Arboretum and to solicit Council direction for staff to continue to work with the Arboretum and Botanical Society of Langley to initiate development of this site.

BACKGROUND/HISTORY:

In October of 2007 Council referred the concept of a botanical garden in the Township of Langley to staff for a report. Staff met with the proponents of the idea and with a cross divisional staff team to discuss significant development issues related to the proposed site at 21200 block Fraser Highway and concluded that a feasibility study would be the appropriate next step in developing this idea for a Botanical Garden.

On May 5, 2008 Council received a report entitled “Botanical Garden Feasibility Study” and directed staff to work with project stakeholders to develop a concept plan for a Sustainable Horticulture Centre with a first phase as a wetland arboretum / nature park as per the consultant’s recommendation. Through 2009 staff developed a Preliminary Concept Plan with input from the stakeholder group for an Arboretum and Sustainable Horticulture Centre.

In March of 2009 Council received an update memorandum from the Director, Recreation, Culture and Parks advising that staff were continuing to work with the project stakeholders and that a non-profit group had been established by the stakeholders to assist with funding the development of this site. The Arboretum and Botanical Society of Langley was provided incorporation by the Province of B.C. under the Society Act on February 17, 2009.

Council provided budget approval in 2009 to proceed with the development of a master plan concept for the site including geotechnical work, further site surveys and detailed design of two theme areas, the parking lot and entry areas. A total of four proposals were received for this work with the team assembled by Lees & Associates Ltd being the successful proponent.

Staff has continued to facilitate the input of the stakeholder group to the work of the consultant team with a total of four input sessions to provide feedback to the development of the master concept plan for the site.

On February 10, 2010 a presentation on the work of the consultant team and input from the stakeholders group was made to the Recreation, Culture, and Parks Advisory Committee who endorsed the master plan concept for the Derek Doubleday Arboretum site.

The consultant team is currently completing the detailed design and cost estimating work for the three identified areas of the site being the two theme areas, the parking lot and entry areas. This work is expected to be complete by the end of April 2010.

The Derek Doubleday Arboretum and Sustainable Horticulture Centre will become one of the park nodes along the Arbour Ribbon trail that will extend along the urban / rural edge providing a treed buffer from adjacent land uses as well as providing a shared use trail connection between Murrayville and Willoughby.

DISCUSSION/ANALYSIS:

The attached *Derek Doubleday Arboretum Master Plan & Programming Report* (Attachment A) describes the process and background information that has influenced the development of the Master Plan for the site (Attachment B). The consultant team of Lees & Associates Landscape Architects has incorporated the site specific recommendations of their two specialist consultants being Braun Geotechnical Ltd and Douglas Justice Botanical & Horticultural Consultant.

The consultant has approached the design of the 12 acre site with the following principles:

• A Light Footprint	• A Concentrated Core
• Recognize Landscape Values	• Take Cues From The Site

• Minimize Infrastructure	• Make it Multipurpose
• Design For The Long Term	

The master plan provides a design response to the following existing conditions, opportunities and constraints:

Opportunities

- The site has connections to Municipal Trail systems including the Arbour Ribbon
- An existing concrete culvert farm tunnel provides an important pedestrian connection under Fraser Highway.
- Views to heritage buildings on the adjacent Berry Farm provide a strong visual link to the area's agricultural heritage.
- Views to the mountains include spectacular views to Golden Ears Provincial Park.
- Nicomekl River and Fraser Creek provide wetland habitat and views to water.
- Remnants of the "Langley Prairie" a local landscape representative of low lying wetland areas subject to grazing and beaver activity.
- Creek work has included habitat compensation and tree plantings in the riparian zones.
- A new bicycle lane on Fraser Highway will provide direct access to the site for cyclists.
- The site provides a context for interpretation of both natural and cultural systems indicative of the region.

Constraints

- The widening of Fraser Highway to four lanes will impact entry and egress to the site.
- Noise from the highway traffic poses a significant barrier to development of programmed areas near to the highway.
- Unsympathetic views to the airport and light industrial buildings will require screening.
- A lack of topographic variation limits the ways in which plants can be displayed and viewed.
- Silty soils limit the variety of plants that can be established without soil amendments and supplemental irrigation.

Master Plan

The Derek Doubleday Arboretum Master Plan clearly defines the proposed development area for the Arboretum and Sustainable Horticulture Centre. The plan allows for a significant buffer between the site and the adjacent airport lands. This buffer is identified in the Master Plan as "Township of Langley Municipal Reserve".

The refined Derek Doubleday Arboretum Master Plan prepared by the consultant team offers a balance between major changes to the site and responding to identified external constraints to create a unique park experience for site visitors.

The main entrance to the site is proposed to be aligned with the new signalized intersection currently being developed by the City of Langley at the location of Old Yale Road and Fraser Highway. This entrance location will require a formal application from the Township of Langley and approval from the City of Langley and will need to be supported with a traffic impact study and if approved would be at the sole cost of the Township of Langley. A secondary right in / right out entry is proposed to be located to the centre of the overall site. Recent discussions with City of Langley staff have highlighted the need to complete a traffic impact study in the next month or two to assist in making decisions regarding the final construction details of Fraser

Highway. This work will be funded out of existing budgets in the Recreation, Culture and Parks Division.

A parking lot demonstrating infiltrating rain garden techniques will be buffered from the noise of Fraser Highway by a landscaped berm with an average height of 2 meters. A welcome centre building using sustainable materials is placed in the centre of the site and will be the focus of future programming and educational opportunities for the site. Five distinct theme areas have been designated in the plan plus a community gardening space that will encourage community use of the site. The theme areas will be developed with the following programming: Compost Demonstration Area, Cultural Use of Plants, Sustainable Gardening, Invasive Plant Species Education and the Aesthetic Use of Plants. These are described more fully in the Programming Report for the site. A series of trails will connect the entry area to the perimeter trail that follows the Nicomekl River and Fraser Creek corridors. Information nodes along the perimeter trail will utilize viewing decks and signage to explain the views from these locations. Outdoor classroom space in the form of a grassed amphitheatre has been provided. Tree collections have been grouped in clusters at pathway intersection nodes and as space defining hedgerows. A large portion of the site has been left as managed grass fields to allow some continued agricultural production of hay and future expansion space for the programming of the site. A service yard area will allow for required operations activities to be conducted without intruding on the site. This area will incorporate a number of large composting bins for parks generated green waste that can be composted for use on site.

The plan has been developed to encourage activities that will generate use and ownership of the site from park users. These include the grassed outdoor classroom amphitheatre, interactive displays, interpretive centre and community garden area. For each of the existing community gardens in the Township of Langley, there are currently waiting lists for available plots. This area, as with all areas of the project, will only be developed as there is demand and available funds. A letter of support for the design of the Derek Doubleday Arboretum was received from the Arboretum and Botanical Society of Langley on October 23, 2009 (Attachment C) and the comments received reflected in the final Master Plan. Specifically the community gardens component was reduced in size from 150 plots to 50 plots and its location was moved to the east of the parking lot away from the centre of the site. The inclusion of community gardens into the development of the site is supported by the stakeholder group and the Arboretum and Botanical Society of Langley.

Intergovernmental Implications

Once the plan and report is adopted by Council, staff intends to discuss the plans and programming for this site with the staff at the Agricultural Land Commission. Passive park uses are an allowable land use within the ALR according to the Agricultural Land Reserve Use, Subdivision and Procedure Regulation, Part 2 section 3 which states: The following land uses are permitted in an agricultural land reserve unless otherwise prohibited by a local government bylaw or, for lands located in an agricultural land reserve that are treaty settlement lands, by a law of the applicable first nation government:(f) biodiversity conservation, passive recreation, heritage, wildlife and scenery viewing purposes, as long as the area occupied by any associated buildings and structures does not exceed 100 m² for each parcel; (g) use of an open land park established by a local government or treaty first nation government for any of the purposes specified in paragraph (f).

Financial Implications

The development of the Derek Doubleday Arboretum Site will be phased over a number of years. Proposed projects within these phases will be brought forward for Council consideration as part of regular Capital budget deliberations.

Cost and Resource Allocations

Staff time will continue to be allocated to support the involvement of the stakeholders group and the development of the site.

Respectfully submitted,

Al Neufeld
MANAGER, PARKS DESIGN AND DEVELOPMENT
for
RECREATION, CULTURE AND PARKS DIVISION

This report has been prepared in consultation with the following listed departments.

CONCURRENCES	
Division / Department	Name
Finance Division	D. Sparks

ATTACHMENT A Derek Doubleday Arboretum Master Plan & Programming Report
ATTACHMENT B Derek Doubleday Arboretum Master Plan
ATTACHMENT C Letter of Support and Input, Arboretum and Botanical Society of Langley



**Township of Langley
Derek Doubleday Arboretum
Master Plan &
Programming Report DRAFT**

Prepared for: Township of Langley
Recreation, Culture and Parks

December 15, 2009

LEES+Associates Landscape Architects

with

Douglas Justice Botanical & Horticultural Consultant
Braun Geotechnical Ltd.

Contact information

LEES+Associates
509-318 Homer St.
Vancouver, BC
V6B 2V2

T: 604-899-3806
F: 604-899-3805
elees@elac.bc.ca

ACKNOWLEDGEMENTS

The development of this Plan was guided by input from the following individuals:

Stakeholders

Larraine Byers, Langley Garden Club
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TABLE OF CONTENTS

LIST OF FIGURES	5
1. INTRODUCTION AND BACKGROUND.....	1
1.1. Project History	1
1.2. Master Planning Process	1
1.3. Design Principles.....	2
1.3.1. A Light Footprint	2
1.3.2. A Concentrated Core.....	2
1.3.3. Recognize Landscape Values	2
1.3.4. Take Cues From The Site	2
1.3.5. Minimize Infrastructure	2
1.3.6. Make It Multipurpose	3
1.3.7. Design For The Long Term	3
2. EXISTING CONDITIONS.....	3
2.1. Opportunities	3
2.2. Constraints	4
3. MASTER PLAN CONCEPT.....	6
3.1. Circulation	9
3.1.1. Vehicular Circulation.....	9
3.1.2. Pedestrian Circulation	10
3.2. Sound Control	11
3.3. Site Elements	12
3.3.1. Buildings	12
3.3.2. Signage	14
3.3.3. Amenities.....	15
3.3.4. Water Features.....	15
3.4. Theme Areas.....	16
3.5. Operations Yard	16
3.6. Community Garden	16
4. PLANTING AND ARBORETUM COLLECTIONS.....	17
4.1. Plant Selection Report.....	17
4.1.1. Proposed Tree Collections	17
4.1.2. Berm Planting	20
4.1.3. Ornamental Display Areas.....	20

4.1.4.	Hedgerow Planting	21
4.1.5.	Non-Riparian Wetlands (Rain Garden & Willow Garden)	22
4.2.	Soil Amendments and Irrigation Recommendations	22
4.2.1.	Existing Soils	22
4.2.2.	Recommended Soil Amendments	22
4.2.3.	Recommended Irrigation Requirements.....	23
4.3.	Guidelines for Plant Donations	23
4.4.	Layout for the Tree Collections	23
5.	IMPLEMENTATION.....	24
6.	PROGRAMMING REPORT	30
6.1.	Theme Area A: Compost Demonstration Area	30
6.2.	Theme Area B: Cultural Uses of Plants.....	31
6.3.	Theme Area C: Sustainable Gardening	32
6.4.	Theme Area D: Invasive Plant Species Education	33
6.5.	Theme Area E: Aesthetic Use of Plants	34
7.	CONCLUSION	35
8.	REFERENCES.....	35
	Appendix A: Geotechnical Report.....	36
	Appendix B: Community Garden Guidelines	37
	Appendix C: Summary of Presentation Feedback.....	41

LIST OF FIGURES

Figure 1.	Derek Doubleday	1
Figure 2.	Site panorama	2
Figure 3:	Site Analysis Map	5
Figure 4.	Master Plan Concept 1 – “Contained”	6
Figure 5.	Master Plan Concept 2 – “Extended”	6
Figure 6.	Master Plan Concept 3	7
Figure 7.	Final Master Plan Concept.....	8
Figure 8.	Proposed vehicular circulation.....	9
Figure 9.	Main entry viewshed.	10
Figure 10.	Proposed pedestrian circulation	11
Figure 11.	Noise mitigation strategies.....	12

Figure 12. Precedent imagery to convey the quality of building.	13
Figure 13. Examples of tensile structures.....	13
Figure 14. Precedent imagery for cob tool shed structure.	14
Figure 15. Precedent imagery for interpretive signage.	15
Figure 16. Precedent images for water feature.....	15
Figure 17. Phased Implementation Plan.....	25
Figure 18. Action Plan.....	29

1. INTRODUCTION AND BACKGROUND

1.1. Project History

In 2008, Township staff were directed by Council to undertake a Feasibility Study to assess whether a Botanical Garden should be developed on a 12 acre site at the 21200 block of Fraser Highway.

Following a detailed evaluation, it was determined that a self-sustaining, traditional botanical garden should not be pursued, and it was recommended that a wetland arboretum be developed on the site as a first phase. The site was formally dedicated as the Derek Doubleday Arboretum on October 4, 2008. Derek John Doubleday, a champion for the preservation of green space and the urban forest, worked for the Township of Langley for 34 years, from 1948 to 1982. The long-term goal is to establish a “sustainable horticultural centre” on the site, with a focus on stewardship of local wetlands, sustainable horticulture, urban agriculture and aesthetic display.

In 2008, 750 meters of new trail were established on the site, as well as a wooden footbridge, and 150 new trees.



Figure 1. Derek Doubleday was a promoter of green space and trees. *Photo: Langley Times*

1.2. Master Planning Process

In August of 2009, the Township of Langley engaged LEES + Associates to carry out a master planning process for the Derek Doubleday Arboretum site. Information was gathered during three site visits, discussions with staff and stakeholders, and a review of all available reports and documentation related to site development (i.e. soil test pits, site surveys, Fraser Highway widening engineering drawings and habitat compensation plans along Fraser Creek).

Two meetings with Township of Langley staff and stakeholders, and one working session with staff took place between August and December 2009. These meetings were held to review site opportunities and constraints, discuss opportunities for involvement by community partners and the Arboretum and Botanical Society of Langley (ABSL), discuss proposed programming for five theme areas, and review proposed master plan concepts. Feedback on preliminary master plan concepts was provided and subsequently incorporated into a final master plan concept that was presented to staff and stakeholders in December 2009.

A summary of feedback received from staff and stakeholders at the September 30, and December 9, 2009 presentations is documented in Appendix C.

1.3. **Design Principles**

The design strategies presented in this Master Plan are informed by the following seven guiding principles:



Figure 2. Site panorama

1.3.1. **A Light Footprint**

- minimize human impacts on the wetland habitat area
- minimize cost of development
- concentrate the character and visual qualities of different spaces
- ensure the long-term viability of agricultural interface

1.3.2. **A Concentrated Core**

- create the greatest possible, most immediate visual/functional impact from programmed spaces
- permit programmed uses to grow outwards as needed
- minimize cost of development

1.3.3. **Recognize Landscape Values**

- to preserve passive landscape typologies now on the site, recognizing their contribution to the overall vision

1.3.4. **Take Cues From The Site**

- preserve sympathetic contextual features (e.g. views of Golden Ears and the Berry Farm buildings)
- mitigate unsympathetic contextual features (e.g. traffic noise from Fraser Highway and views of visually incompatible industrial development)

1.3.5. **Minimize Infrastructure**

- install only the required level of infrastructure to facilitate the projected level of use

- phase/build incrementally

1.3.6. Make It Multipurpose

- make all features contributors to the concept of sustainability (e.g. parking areas as demonstration projects; minimal; permeable pedestrian paving; planting appropriate to the site's natural and cultural character)
- extend "key messages" throughout the site

1.3.7. Design For The Long Term

- keep elements modest in the early stages to respond to changing community needs and available resources
- develop "roots in the community" to promote the society's ability to raise funds, provide maintenance and organize programmed events
- focus on relatively inexpensive structural elements (such as planting and land-forming) to provide the necessary structure for future development

2. EXISTING CONDITIONS

The Derek Doubleday Arboretum is a 12 acre site bounded by Fraser Highway to the south, Nicomekl Creek to the east, Langley Regional Airport to the north, and the Nicomekl River to the west. The site contains agricultural land, currently managed as a hay field, and lies within the Agricultural Land Reserve. A gravel trail and pedestrian foot bridge were installed in 2008 and have been incorporated into the development plans.

2.1. Opportunities

- The site has connections to the Arbour Ribbon trail system.
- An existing concrete culvert farm tunnel provides an important pedestrian connection under Fraser Highway.
- Views to heritage buildings on the adjacent Berry Farm provide a strong visual link to the area's agricultural heritage.
- Views to the mountains include spectacular views to Golden Ears Provincial Park.
- Nicomekl River and Fraser Creek provide wetland habitat and views to water.
- Remnants of the "Langley Prairie," a local landscape representative of low-lying wetland areas subject to grazing and beaver activity.
- Creek work has included habitat compensation and tree plantings in the riparian zones.
- A new bicycle lane on Fraser Highway will provide direct access to the site for cyclists.
- The site provides a context for interpretation of both natural and cultural systems indicative of the region.

2.2. Constraints

- The widening of Fraser Highway to four lanes will impact entry and egress to the site.
- Noise from highway traffic poses a significant barrier to development of programmed areas near to the highway.
- Unsympathetic views to the airport and light industrial buildings will require screening.
- A lack of topographic variation limits the ways in which plants can be displayed and viewed.
- Silty soils limit the variety of plants that can be established without soil amendments and supplemental irrigation.

The map (Figure 3) on the following page documents site boundaries and features as well as the key opportunities and constraints.

Opportunities



1. UNDERPASS - FUTURE CONNECTION



2. VIEWS TO GOLDEN EARS



3. VIEWS TO BERRY FARM BUILDINGS C.1901-1902 LOCAL LANDMARK



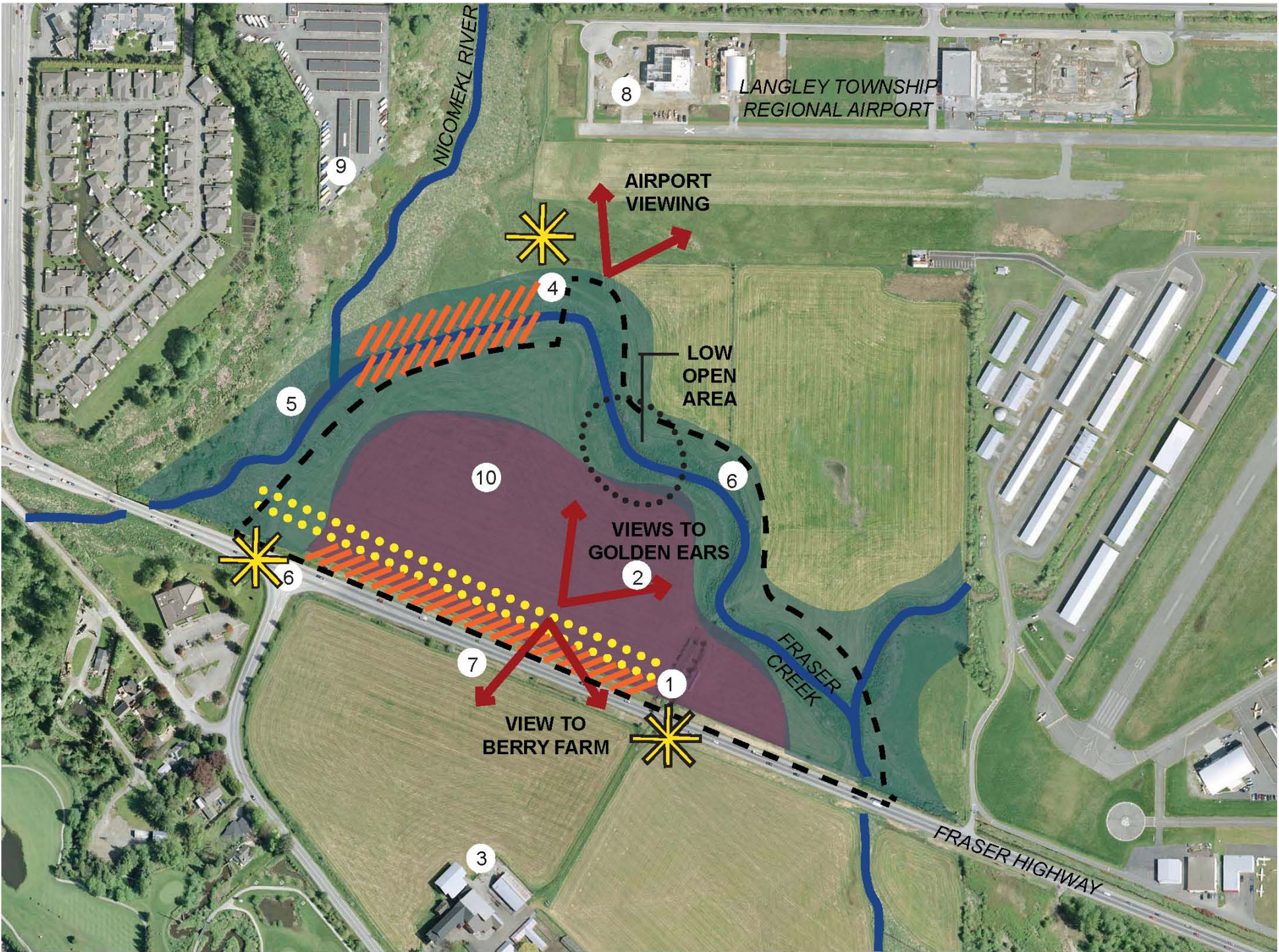
4. VIEWS TO WATER



5. EXPERIENTIALLY AND HABITAT RICH WETLAND AREAS ALONG NICOMEKL AND FRASER CREEK.



6. TREE PLANTINGS ESTABLISHED BELOW TOP OF BANK



OPEN AREA - MORE INTENSIVE PROGRAMMING



EXPERIENTIALLY / ECOLOGICALLY RICH AREAS - PASSIVE PROGRAMMING



FUTURE CONNECTIONS TO TRAIL SYSTEM



HIGH NOISE LEVELS



BUFFER REQUIRED



PROPOSED SITE BOUNDARY

Constraints D.1



7. HIGHWAY NOISE



8. SCREENING REQUIRED (UNDESIRABLE AIRPORT VIEWS)



9. SCREENING REQUIRED (LIGHT INDUSTRIAL)



10. LACK OF TOPOGRAPHIC VARIATION

Figure 3. Site Analysis Map

3. MASTER PLAN CONCEPT

Two preliminary Master Plan concepts were developed and presented to Stakeholders on September 30, 2009.

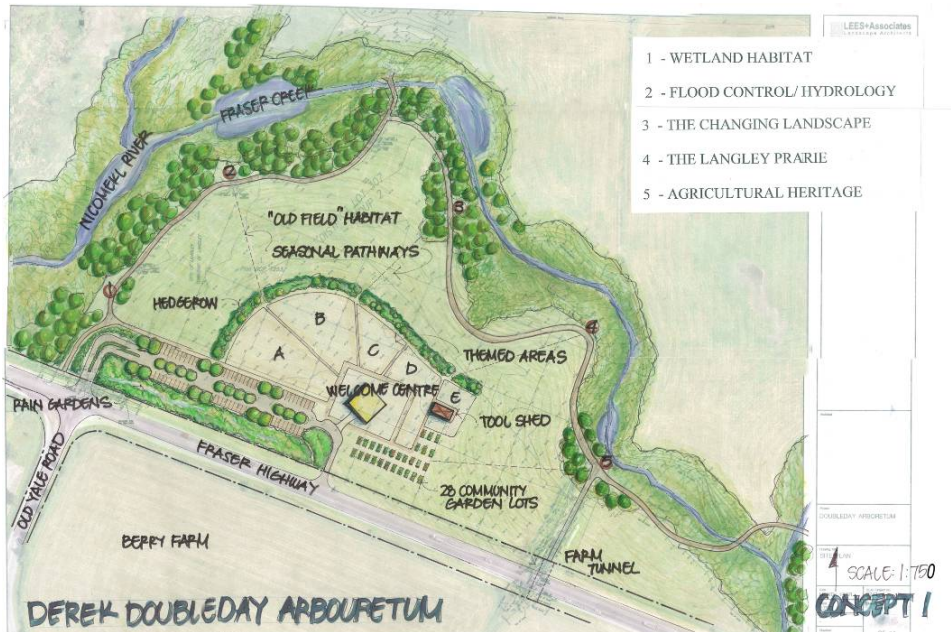


Figure 4. Master Plan Concept 1 – “Contained”

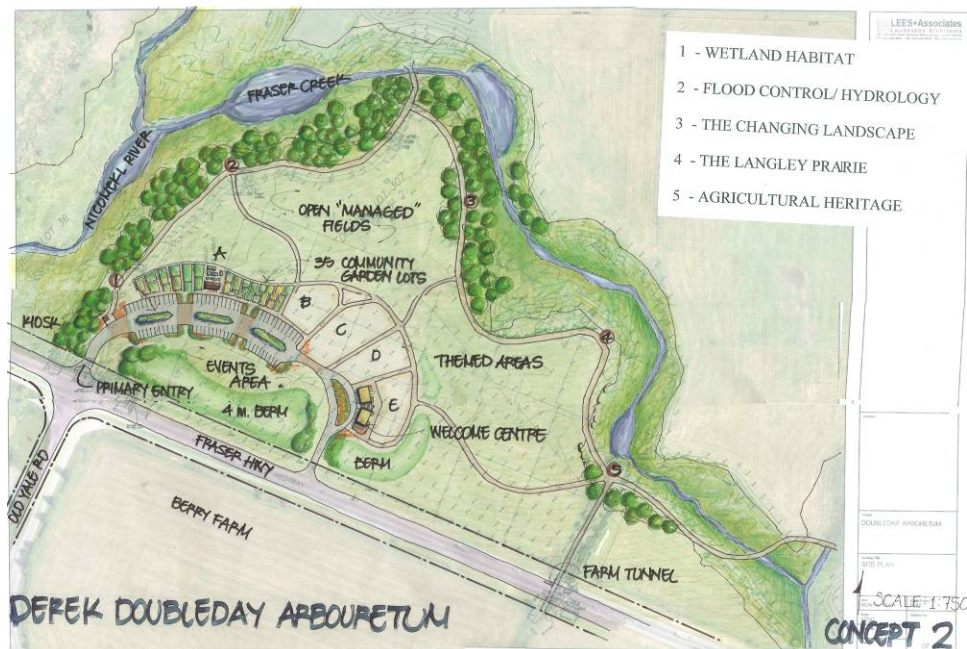


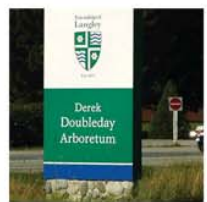
Figure 5. Master Plan Concept 2 – “Extended”

Feedback was received from staff and stakeholders and incorporated in to a third Master Plan concept for the Derek Doubleday Arboretum (see Figure 6).



Figure 6. Master Plan Concept 3

Following review and comment on the plan by Township staff, stakeholders, and members of the RCP Commission, a final concept was prepared (see Figure 7 on the following page).



1. MAIN ENTRANCE
The main entrance is enhanced with the relocation of the DDA entry sign.



2. GREEN PARKING LOT & RAIN GARDEN
A sustainable parking lot demonstrates principles of water conservation.



3. BERMS
A series of low berms serve to mitigate noise from Fraser Highway and create a unique identity for the site.



4. WELCOME CENTRE
A permanent building may use solar technology and sustainable building materials.



5. BOARDWALK AND LOOKOUT
Elevated boardwalks lead to lookout points on the Nicomekl River and Fraser Creek.



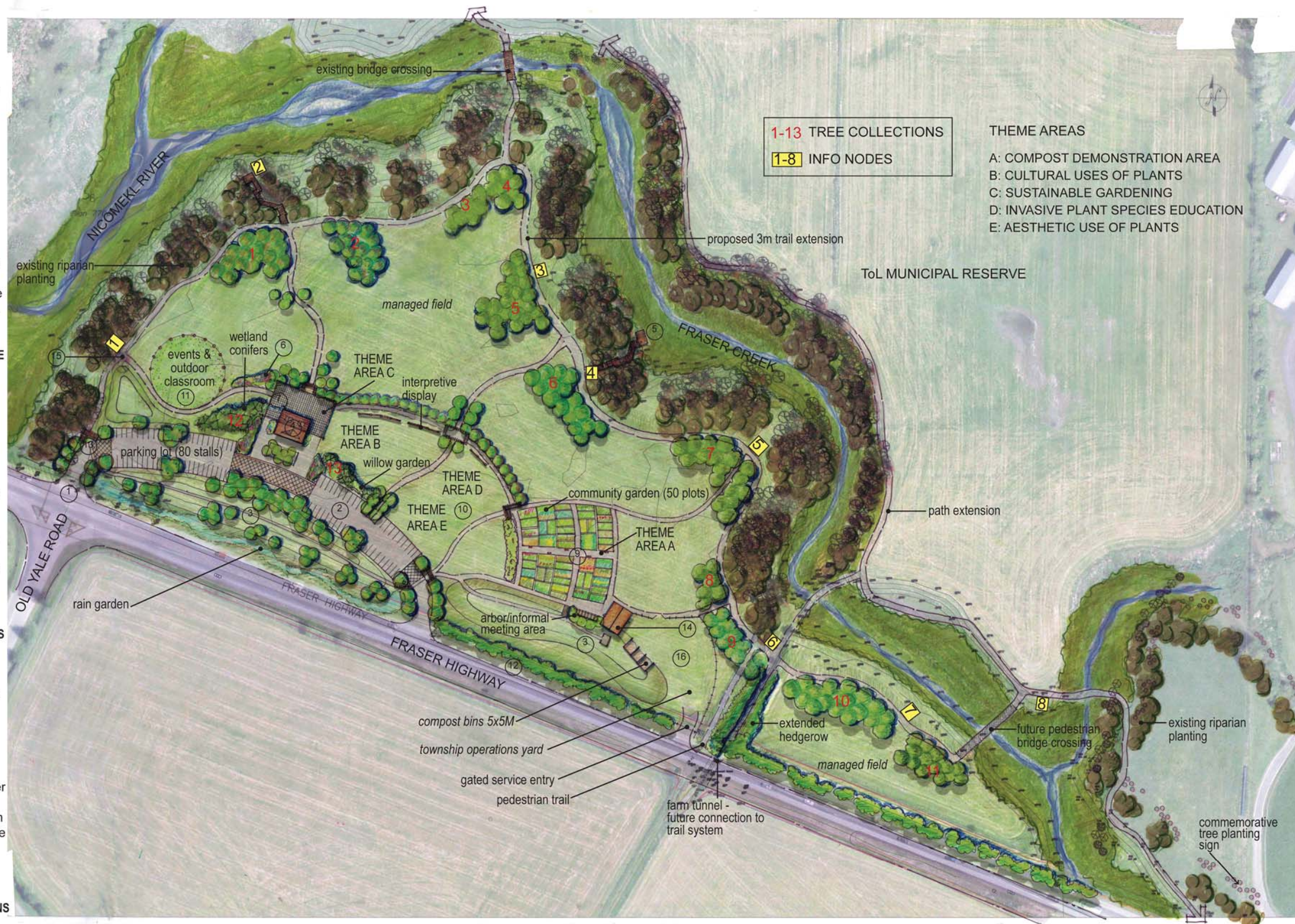
6. DISPLAY GARDENS
Ornamental plantings along the main entry create an attractive welcome.



7. WATER FEATURE
A boulder + rill water feature conveys drainage water from the Welcome Centre roof to the conifer rain garden.



8. TREE COLLECTIONS
Tree collections showcase coniferous and deciduous tree families with native representatives.



1-13 TREE COLLECTIONS
1-8 INFO NODES

THEME AREAS

A: COMPOST DEMONSTRATION AREA
B: CULTURAL USES OF PLANTS
C: SUSTAINABLE GARDENING
D: INVASIVE PLANT SPECIES EDUCATION
E: AESTHETIC USE OF PLANTS

9. COMMUNITY GARDENS
Garden plots are allocated for local residents and school groups, and animate the site.



10. THEME AREAS
Five theme areas are the basis for the site's core educational and interpretative programs.



11. EVENTS & OUTDOOR CLASSROOM
Three formal gathering areas can accommodate groups of varying sizes.



12. HEDGEROW
A mixed buffer along the southern perimeter provides habitat and screens highway traffic.



13. ARBOUR
Arbours serve as gateways and create a sense of enclosure for gathering spaces.



14. TOOL SHED
A subdivided structure near the community garden provides storage for the community and Township operations staff.



15. INTERPRETIVE SIGNAGE
Situated at the info nodes, signs highlight site features and explain natural processes.



16. OPERATIONS YARD
The operations yard is a transparent work site that demonstrates best maintenance practices.



3.1. Circulation

3.1.1. Vehicular Circulation

General Circulation Recommendations

- A proposed vehicular circulation pattern is proposed in Figure 8.
- Main vehicular circulation routes will be asphalt, with on-site water collection and treatment.
- Service vehicle routes will be gravel.
- Entry and egress signage and turning lanes to be coordinated with plans for Fraser Highway widening.
- This circulation layout should create a pleasant visual entry experience for vehicular traffic, cyclists and pedestrians (see Figure 9).
- The existing Derek Doubleday entry sign will be relocated to the main vehicle entry.



Figure 8. Proposed vehicular circulation.



Figure 9. The main entry will provide views of the Welcome Centre, Ornamental Display Gardens and Community Gardens with distant views to Golden Ears.

3.1.2. Pedestrian Circulation

General Pedestrian Circulation Recommendations

- A proposed pedestrian circulation pattern is proposed in Figure 10.
- Primary pedestrian pathways will be 3m wide gravel trail.
- Secondary pedestrian pathways will be 1.5m wide gravel.
- Boardwalks and lookout platforms will provide viewing access to Nicomekl River and Fraser Creek.
- Pedestrian entry points from adjacent residential developments should be encouraged.
- Maintaining a pedestrian connection under Fraser Highway via the concrete farm tunnel should be considered a high priority, in order to provide a future trail connection and pedestrian access to the south property in the long term.



Figure 10. Proposed pedestrian circulation

3.2. Sound Control

Traffic noise on Fraser Highway was identified as a constraint to development during site analysis and at the presentation to stakeholders. The following three noise mitigation strategies (Harris & Dines, 1998) are employed in the Derek Doubleday Arboretum Master Plan to reduce noise in the core program areas.

Key mitigation strategies:

1. Distance from source
2. Noise barrier
3. Dense plantings

Design Response on DDA site:

Move programming into site
Create earthen berms
Plant hedgerow



Figure 11. Earthen berms and hedgerows are two noise mitigation strategies employed at the DDA site.

3.3. Site Elements

3.3.1. Buildings

Proposed Welcome Centre

- A Welcome centre should be built to welcome visitors, offer interpretation of the site, provide space for workshops and washroom facilities, and house administration offices.
- The Welcome Centre building should be located in the centre of the site (Figure 7) so that it can become a new focal point on the site, and so that it takes advantage of noise abatement provided by the berms.
- The architecture of the new Welcome Centre should incorporate green building technologies.
- The reception centre should incorporate an outdoor classroom area, with an arbor, and an attractive garden space with water feature.
- Wide overhangs and weather protection adjacent to the building will increase all-weather activities and use of the outdoor classroom area during inclement weather.
- Include flexible space for special events and functions (e.g. lectures, plant sales).



Figure 12. Precedent imagery to convey the quality of building for the Welcome Centre. From left: Cedar River Watershed Education Centre, Washington; Central Greenough Interpretive Centre, Australia; Lynn Canyon Ecology Centre, North Vancouver.

In order to optimize use of the Welcome Centre site as an outdoor classroom and for community events in the short-term:

- Install a semi-permanent modular building or tensile structure at the Welcome Centre site until building construction is initiated.



Figure 13. Examples of tensile structures that provide some shade and weather protection.

Tool Shed

- A cob structure is recommended for the tool shed which will be a focal point of the Derek Doubleday Community Garden and Operations Yard.



Figure 14. Precedent imagery for cob tool shed structure.

3.3.2. Signage

- Relocate the existing Derek Doubleday entry sign to the main entry after Fraser Highway widening works are completed.
- Erect interpretive signs at info nodes as indicated on the Master Plan. The following themes are suggested for the info nodes:
 - #1 – Role of the Salmon;
 - #2 – Flood Control / Hydrology;
 - #3 – The Changing Landscape;
 - #4 – Wetland Habitat;
 - #5 – Living Next to Water;
 - #6 – The Farm Tunnel;
 - #7 – Agricultural Heritage, and
 - #8 – The Langley Prairie.
- Tag trees with labels indicating species name and genus.
- Install signage for self-directed wayfinding to help visitors to find arboretum collections, theme areas, and other points of interest.

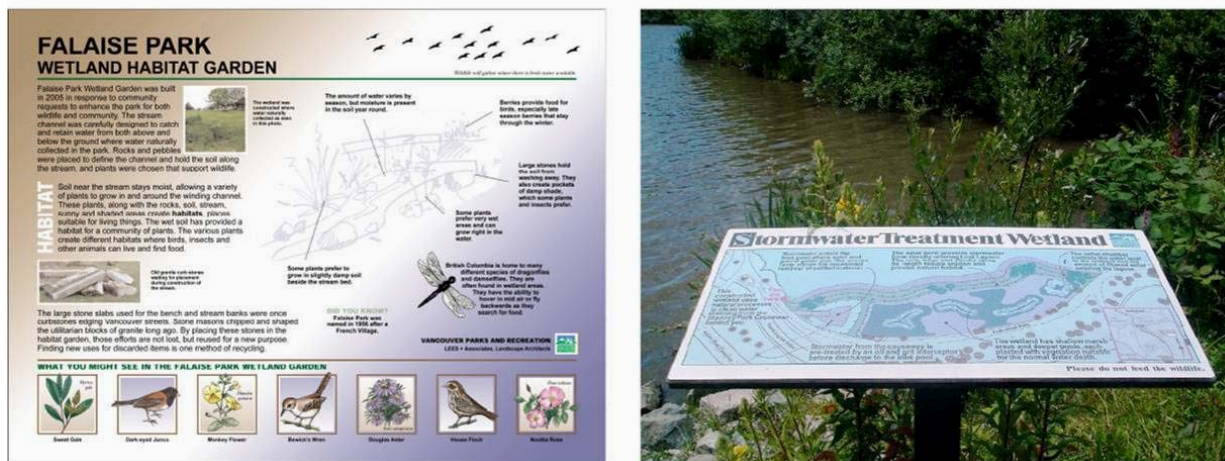


Figure 15. Precedent imagery for interpretive signage.

3.3.3. Amenities

There are several locations where the addition of a landscape structures could help create a sense of gateway, direct views, and provide sheltered and restful places for visitors. The following are recommended:

- Install arbors at the main pedestrian notes, at the outdoor classroom (behind Welcome Centre), and in the community garden (see Figure 7).
- Create rest points along the perimeter trail with benches.

3.3.4. Water Features

- Construct two wooden boardwalks with lookout platforms – one on the Nicomekl River and one on Fraser Creek (see Figure 7).
- Install a recirculating boulder and rill water feature to convey drainage water from the Welcome Centre roof to the Wetland Conifer Garden.



Figure 16. Precedent images for water viewing structures and recirculating water feature.

3.4. **Theme Areas**

Core programming and educational objectives around sustainable horticulture will occur in five Theme Areas, which are situated at the centre of the site (see Figure 6). The following theme areas are proposed:

- Theme Area A: Compost Demonstration Area
- Theme Area B: Cultural Use of Plants
- Theme Area C: Sustainable Gardening
- Theme Area D: Invasive Species Education
- Theme Area E: Aesthetic Use of Plants

See Chapter 6: Programming Report, for details on the programming objectives for each Theme Area.

3.5. **Operations Yard**

The Operations Yard will include the following parameters:

- Minimum 15 x 15m fenced compound with the possibility of expansion;
- 3 x 6m out building;
- Access for service vehicles (including a small tractor);
- 5 x 5m storage bins for soil and compost that volunteers can access, and
- Large garbage bin.

3.6. **Community Garden**

The community garden is expected to be a regular, active part of the arboretum. There is a high demand for community garden plots in the Township and accessibility to those garden plots is very important, especially for seniors. The Derek Doubleday Arboretum Community Garden will compliment the Sustainable Horticulture program and the community kitchen at Kwantlen Polytechnic University.

The Derek Doubleday Community Garden includes:

- 50 community garden plots
- A tool shed (in conjunction with the Operations Yards)
- Arbor and seating area
- Compost Demonstration (Theme Area A)

It is recommended that community garden guidelines be developed for the community garden to address garden plot appearance and maintenance expectations. Sample guidelines for the Derek Doubleday Community Garden are attached as Appendix B.

4. PLANTING AND ARBORETUM COLLECTIONS

4.1. Plant Selection Report

4.1.1. Proposed Tree Collections

The Tree Collections at the Derek Doubleday Arboretum are a core component of the site, based on Mr. Doubleday's lifelong advocacy for local green space, tree preservation and tree planting.

The objective of these Collections is to improve the understanding, appreciation and preservation of woody plants in the landscape through the display of tree and shrub species that can be grown in this area and that are suitable to this site.

The Tree Collections are proposed to include deciduous and coniferous trees arranged by genus. The deciduous tree collection is proposed to include primarily (though not exclusively) those genera with native representatives.

The coniferous tree collection is proposed to focus on wetland species. The rationale is that dry land conifers are relatively common in the local landscape and are already well represented by recent plantings in the riparian zone. Featuring wetland conifers would open up the palette to a variety of non native conifers that are not commonly seen in this area.

The recommended lists below are subject to revision according to soil and other conditions as well as the actual availability of these species of trees.

NOTE: Latin names are shown in *italicized font*; common names follow in regular font. Plant species are listed in alphabetical order.

Recommended tree species for collections include:

I. Coniferous trees

- | | | |
|----|----------------------|----------------------|
| 1. | <i>Chamaecyparis</i> | false cypress |
| 2. | <i>Metasequoia</i> | dawn redwood |
| 3. | <i>Taxodium</i> | bald cypress |
| 4. | <i>Thuja</i> | red cedar/arborvitae |

II. Deciduous trees

- | | <u>Genus</u> | <u>Common name</u> |
|----|----------------------|---|
| 1. | <u><i>Acer</i></u> | <u>maple</u>
-includes many attractive species that would do well at this site |
| 2. | <u><i>Cornus</i></u> | <u>dogwood</u> |

- includes many shrubby species that could be integrated into the collection, as well as used throughout the display areas
 - species typically require edge conditions with some shade
 - subject to anthracnose in poorly drained sites
 - subgenus *Swida* (the shrubby species) have great potential as nursery shrubs and small trees therefore worth displaying here
3. *Corylus* hazelnut
 - local species, *C. cornuta*, as well as European and Asian species could work well at this site
 - all provide excellent wildlife habitat
 - could also be used to demonstrate traditional coppicing techniques
 - a genus with local economic value; however currently experiencing decimation of the industry in Oregon due to Eastern Filbert blight
 4. *Fraxinus* ash
 - includes many attractive species that would do well at this site
 5. *Quercus* oak
 - *Q. palustris* and *Q. bicolor* tolerate high soil moisture but others may not do well where the water table is high
 - *Q. rubra* may also be fine here, in areas with un-compacted soil containing organic amendments
 6. *Salix* willow
 - primarily shrub species should be represented (tree species in a collection could be problematic)
 - recommend that species be selected according to their value for willow weaving, basketry etc (many native and European species are available locally)
 7. *Sorbus* mountain ash
 - not European *S. aucuparia*; this is a higher elevation genus with larger, more tree-form species
 - all species need summer moisture
 - good on irrigated slopes
 - show best with conifers as backdrop
 8. *Tilia* linden/lime
 - locally, a much under-represented genus
 - several attractive species, notably *T. tomentosa*, would be good at this location

9. Fagus beech
-success depends on drainage
10. Magnolia magnolia
-tolerate winter moisture
-require summer moisture
-brittle wood, which may be an issue with winter winds at this site
-*M. x soulangeana* should be successful with irrigation
-other open canopied Asian magnolias may not be hardy here
11. Nyssa black gum/tupelo
-*N. sinensis* and *N. sylvatica* should work well here; both are tolerant of flooded soils

III. Other deciduous trees

1. Aesculus horse chestnut/buckeye
-not recommended at this site due to intolerance of high water tables and susceptibility to anthracnose
2. Betula birch
-only *B. nigra* is resistant to Bronze Birch borer; therefore it may be best to grow birches in clumps throughout the site rather than as a separate collection
-Chinese Red Birch (*B. albosinensis*) could be good in wetland display area
3. Castanea sweet chestnut
-worth trying at well drained location
4. Crataegus Hawthorn
-tend to have poor form; preferable to integrate into wetland areas rather than as a standalone collection
5. Gymnocladus Kentucky coffee tree
-specimen may be worth trying as a feature tree
-in general, avoid trees in Pea family (Fabaceae)
6. Koelreuteria golden rain tree
-specimen may be worth trying as feature tree
7. Malus apple/crabapple
-only native is *M. fusca*; other species would likely not do well at this site (disease prone).
-*M. fusca* has already been planted in the riparian area.

8. <i>Prunus</i>	cherry/plum
	-may not be suitable at this site due to brown rot and bacterial canker—common on <i>Prunus</i> on sites with high humidity in shoulder seasons

4.1.2. Berm Planting

Ornamental grasses are suggested as primary planting material for the berms at Derek Doubleday Arboretum for the following reasons:

1. Many hardy species are both attractive and well suited to this application. A number of ornamental grasses can tolerate the dry conditions that will likely prevail during the summer in this area, particularly on south and west-facing slopes.
2. Some species are also tolerant of some pedestrian traffic, which is likely at this site.
3. Many species can provide a significant aesthetic effect with only a modest level of maintenance.

Ornamental grass plantings should be designed according to the aspect and elevation of their proposed location on the berms since conditions at the top of a berm will typically be quite different from those at the bottom. The use of topsoil and soil amendments will be critical to the success of even drought-tolerant grass species when planted in the driest areas of the berms.

The berms proposed at this site have the potential to become “iconic” landmarks for the arboretum and so should be designed carefully to ensure that they can develop as attractive, seasonal features with minimal maintenance requirements over the long term.

Recommended species include:

- *Festuca idahoensis* Idaho Fescue
- *Helictotrichon sempervirens* Blue Oat Grass
- *Muhlenbergia capillaris* Pink Muhly grass
- *Panicum virgatum* Switch Grass
- *Sesleria autumnalis* Autumn Moor Grass
- *Sorghastrum nutans* Indian Grass
- *Sporobolus heterolepis* Prairie Dropseed

4.1.3. Ornamental Display Areas

Display areas are proposed to provide relatively intensely planted and managed areas where appropriate plants, typically shrubs and perennials, can be planted to highlight specific types, aesthetic characteristics or uses of plants. The ornamental display areas at Derek Doubleday Arboretum should be developed initially in the areas with the highest visibility; for example, around the site sign, near the pedestrian and vehicle entry areas and along the edges of the parking lot. As development proceeds, display beds should be established along the edges of the community gardens and then in the thematic display areas. As a rule of thumb, display

areas should be concentrated where they can be most often enjoyed and are easiest to manage, such as at the edges of pathways, pathway junctions and near structures.

From a design perspective, planting *en masse* on large, open sites such as this is often a successful strategy. Particularly in the early stages of the site's evolution, the "broad-brush" effects possible with mass plantings can be very effective, taking advantage of the full sun environment that will prevail before trees grow, imposing a visual structure as well as moderating the microclimate. Simple swaths of perennials and ornamental grasses can provide a dramatic context for small, newly planted trees and shrubs. The informal quality of this style of planting would be an appropriate style for the simple, rural-agricultural context of the arboretum site.

Planting in drifts, taking advantage of even slight changes in topography and layering plant varieties according to their seasonal colours and textures can maximize the most attractive characteristics of the species chosen. Plant types should be chosen and arranged as overall compositions, using colour as a foil against more uniform or neutrally-coloured foliage of background plants.

4.1.4. Hedgerow Planting

Hedgerows are wide bands of mixed tree and shrub plantings that typically line the edges of roads, paths or fences in rural environments. Hedgerows as a specific type of planting originated in Britain, where they are now recognized for providing valuable habitat for an extremely rich variety of wildlife. By nature, hedgerows are diverse, with nut, berry and fruit-bearing plants growing together, usually in protected sites where seeds have been deposited by birds. Most are at least 4 meters wide and, while not tidy in appearance, most offer invaluable habitat for a wide range of wildlife, providing sites for foraging, rest and refuge as well as nesting, due to their dense tangle of woody and herbaceous plants.

A hedgerow is proposed at the Derek Doubleday site along the fence next to Fraser Highway, where it will provide a visual and sound buffer, as well providing an appropriate edge treatment for a site with an environmental mandate. The framework for the hedgerow should be native trees and shrubs that are relatively small at maturity in order to keep the edge relatively soft and open. By limiting the choice of species, the hedgerow should reach no more than approximately 6 – 7 m in height.

A natural hedgerow is already developing on the site, along the bank approaching to the farm tunnel. Species already present here are good candidates for the Fraser Highway hedgerow. The following is a list of candidate tree and shrubs species, with placement to be determined according to proximity to the ditch (soil moisture):

- *Amelanchier alnifolia* serviceberry
- *Cornus stolonifera* red twig dogwood
- *Crataegus douglasii* Douglas hawthorn
- *Philadelphus lewisii* mock orange
- *Physocarpus capitatus* Pacific ninebark
- *Rhamnus purshiana* cascara

- *Ribes sanguineum* flowering currant
- *Rosa nutkana* Nootka rose
- *Sambucus caerulea* blue elderberry
- *Sambucus racemosa* red elderberry
- *Sorbus sitchensis* Sitka mountain ash
- *Symphoricarpos albus* snowberry
- *Viburnum edule* highbush cranberry

4.1.5. Non-Riparian Wetlands (Rain Garden & Willow Garden)

The rain gardens will serve as wetland environments to capture runoff from the central parking lot and drive. The willow garden is a low wet area that will serve as a harvesting area for programming associated with Theme Area B: Cultural Uses of Plants.

Recommended plants for these areas include:

- Adoxaceae: many *Sambucus* (elderberry) species
- Cupressaceae: *Chamaecyparis* (yellow cedar) and *Thuja* (western red cedar), *Taxodium* (bald cypress) and *Metasequoia* (dawn redwood)
- Cyperaceae: most sedges
- Juncaceae: rushes (many species)
- Salicaceae: *Salix* (willow), *Populus* (poplar and aspen) species
- Typhaceae: *Typha* (cattail)

4.2. Soil Amendments and Irrigation Recommendations

4.2.1. Existing Soils

The soil on site is a sandy silt loam (Herman 2008) which can be problematic with regard to tree establishment during summer drought conditions. If there is insufficient moisture, tree roots, which are mostly inelastic, can be damaged by soil shrinkage, and roots can more easily die off from drought due to the inability of these soils to store significant moisture. If there is an adequate subsurface supply of moisture or above-ground irrigation, few problems will arise. Either way, regular applications of organic matter will improve the soil.

In addition, if subsurface moisture is abundant during the winter months (when most trees are not using it) it could force the water table close to the surface. This would limit the diversity of trees and other plants that can be grown on the site

4.2.2. Recommended Soil Amendments

Silty soils tend to pack tightly and exclude air through the action of traffic, alternating saturation

and drying out and repeated surface puddling or flooding. Applications of organic matter, such as well-rotted manure or leaf mould, incorporated to a depth of 30 to 45 cm, and with subsequent regular surface applications, will facilitate greater oxygenation of the root zone, better moisture and nutrient retention and increased activity of invertebrates, such as earthworms. Animal manures may be readily available in the area, but it is not advisable to apply fresh manure to permanent plantings.

4.2.3. Recommended Irrigation Requirements

- It is recommended that all trees planted in the tree collection areas receive supplemental summer irrigation for a period of three years to ensure their establishment.
- In order to maximize watering efficiencies it is recommended that an automated PVC temporary irrigation system be installed rather than hand watering (with a water truck) in the Tree Collection areas. This option will very likely be less costly in the long run.
- Ornamental display areas will require permanent summer irrigation, unless species adapted to the existing site conditions are selected.

4.3. Guidelines for Plant Donations

- All plant donations will be delivered to the Township of Langley and held for assessment of shipment to assess the plant's health prior to acceptance into the Derek Doubleday Arboretum.
- No cost will be incurred by the Township for delivery, and all plant material will be delivered intact to an agreed upon Township facility.
- The Township reserves the right to accept or reject any plant material subject to an assessment by the Township arborist or appointed delegate.
- If required, the value of donated plants will be established by the Township.

4.4. Layout for the Tree Collections

It is recommended that tree collections be placed along the pedestrian circulation routes. The intent is that visitors will encounter all of the arboretum's tree collections as they travel along the perimeter pathway. Trees should be planted in "pockets" – an approach that has worked well at VanDusen Gardens, where open-branched trees are placed to create a sense of space even when young, as well as being able to fill in evenly over time.

The "negative space" created by tree plantings should be carefully considered. It is important that the qualities of the spaces between the trees are visually and experientially appealing. Groves, glade and meadows should be developed to offer attractive backdrops for adjacent plantings and programmed spaces. Locations for interpretive signage and seating should also be planned in advance. Trees should then be arranged so that visitors will be able to see each

collection as a discrete unit, as well being able to appreciate the aesthetic qualities of the collection (genus) as a whole.

Spacing of trees should be determined according to the future desired effect—whether that is to be a continuous canopy, a linear allée, a scattered clumping or a dense over storey. Ideally, most trees will be planted with sufficient space around them to permit them to achieve an “open grown” quality, displaying the size, form and habit that characterizes its species. The display of trees grown without constraints may in fact be one of the most important offerings of the modern arboretum—particularly as the spaces left for trees in the urban environment continues to shrink and the number of impacts on the natural habit of trees continues to increase.

5. IMPLEMENTATION

The following prioritized list of action items lays out a plan to achieve the long-term vision outlined in this master plan. The realization of the proposed arboretum and sustainable horticulture centre will be the result of long-term, on-going collaboration between the Township of Langley, the Arboretum and Botanical Society of Langley and community partners. Timing of improvements will ultimately depend on the success of fundraising initiatives and interest and availability of community partners. A digital copy of the Action Plan (Figure 19) will be provided to the Township so that it can be updated as action items are realized.



Figure 17. Phased Implementation Plan

Derek Double Arboretum Action Plan

Action Plan	Partners				Timeline			Funding				
	TOL	ABSL	LEPS	KWANTLEN	Phase 1	Phase 2	Phase 3	Grant	Fundraising	In-Kind/ Volunteer	Donation	TOL
Roads, Parking and Pathways												
Detailed design of parking lot & rain garden												
Detailed design of new main vehicle entrance												
Construction of parking lot & rain garden												
Construction of new main vehicle entrance												
Detail design of access loop and drop off												
Construction of access loop and drop off												
Coordination with TOL Engineering for Highway signage and llops												
Establish new operations entrance at Fraser Highway												
Extend 3m gravel perimeter trail												
Construction of secondary 1.5m gravel pathways												

Action Plan	Partners				Timeline			Funding				
	TOL	ABSL	LEPS	KWANTLEN	Phase 1	Phase 2	Phase 3	Grant	Fundraising	In-Kind/ Volunteer	Donation	TOL
Buildings												
Installation of tensile/ modular structure at Welcome Centre site												
Develop architectural design guidelines for Welcome Centre												
Detailed design of new Welcome Centre												
Construction of new Welcome Centre												
Planning and design of Operations Yard & Shed												
Construction of Operations Yard & Shed												
Planning, design, and construction of cob Tool Shed												
Theme Areas												
Theme Area A: Compost Demo												
Theme Area B: Cultural Use of Plants												
Theme Area C: Sustainable Gardening												
Theme Area D: Invasive Species Education												
Theme Area E: Aesthetic Use of Plants												

Action Plan	Partners				Timeline			Funding				
	TOL	ABSL	LEPS	KWANTLEN	Phase 1	Phase 2	Phase 3	Grant	Fundraising	In-Kind/ Volunteer	Donation	TOL
Planting and Tree Collections												
Planting of Tree Collections 1-13												
Planting of hedgerow along Fraser Highway perimeter.												
Continue re-establishment native riparian vegetation within top-of-bank zone.												
Design & installation of temporary irrigation infrastructure												
Planting of displays at main vehicle entry												
Planting of ornamental display areas												
Planting of ornamental grasses on berms												
Planting of non-riparian wetlands												

Action Plan	Partners				Timeline			Funding				
	TOL	ABSL	LEPS	KWANTLEN	Phase 1	Phase 2	Phase 3	Grant	Fundraising	In-Kind/ Volunteer	Donation	TOL
Site Elements												
Relocate entry sign to main entrance												
Construct earthen berms												
Extend 3m gravel perimeter trail												
Design of Arbors												
Construction of Arbors												
Detailed design of boardwalk and lookouts												
Construction of boardwalk and lookouts												
Develop and implement signage guidelines												
Design of interpretive panels for info nodes												
Construction of interpretive panels at info nodes												
Detailed design and construction of pedestrian bridge at Fraser Creek												
Design & Construction of Events Area/Outdoor Classroom												
Design & Construction of Community Gardens												

Figure 18. Action Plan

6. PROGRAMMING REPORT

6.1. Theme Area A: Compost Demonstration Area

Rationale:

As the long-term location of the existing LEPS Demonstration Area is not assured, a permanent home in the long-term at the Derek Doubleday Arboretum (DDA) site would provide assurance for future investment in this facility. With a location adjacent to the Derek Doubleday Community Gardens, Works Yard, and Theme Areas the DDA site would provide a synergistic location for a compost demonstration facility. It would also provide a “one-stop” location for local students, residents and others to learn about the role of composting as a part of sustainable horticultural practices. LEPS has indicated an interest in collaborating with the TOL based on the proposed demonstration area programming objectives.

Locating large-scale (i.e., Township-wide) leaf composting at the Derek Doubleday site would further enhance the objectives of this Theme Area by demonstrating the role of composting at both a household and a community scale.

Programming objectives:

To promote composting as a simple, organic process that can help reduce household waste, including:

- The Science of Composting
- Making Backyard Compost
- Worm Composting (for Apartments)
- Leaf Composting
- What to Compost
- Mulching
- Using Compost



Precedents:

- GVRD Compost Demonstration Garden (Burnaby)
- City Farmer Compost Demonstration Garden (Vancouver)

6.2. Theme Area B: Cultural Uses of Plants

Rationale:

This theme area would be a place to learn about the many uses of native and non-native plants in our landscape. The displays would demonstrate to the community about the ethnobotanical uses of plants (eg. as food, as medicine; in dyeing; as textiles; in construction; as tools; as clothing). This Theme Area will focus around a Willow Garden and a Dyer's Garden. Plants harvested from these gardens will provide an opportunity to explore contemporary cultural uses of plants, such as workshops with local artists about use of the willow.

First Nations use of many of the plants found in the wetland area could also be interpreted here, including their edible and medicinal properties.

Programming objectives:

To use the site as an outdoor classroom to illustrate and educate about the cultural aspects of plants, with a focus on use of wetland species. This may include workshops on:

- Basketry
- Willow art
- Live willow fences
- Using natural dyes
- First Nations uses
- Edible landscapes



Precedents:

- Living Willow Fence at John Hendry Park (Vancouver)
- Cottonwood Community Garden – Environmental Youth Alliance (EYA) Youth Garden (Vancouver)

6.3. Theme Area C: Sustainable Gardening

Rationale:

As the trend in recreational gardening for physical activity and well-being grows, there is a need to promote gardens that will not degrade the environment or pose pesticide risks to local residents. In Langley, waterwise gardening is also important issue, as summer months often experiencing drought-like conditions and associated sprinkling regulations. This Theme Area will heighten public awareness about sustainable horticultural practices and will demonstrate best practices. Collaboration with Kwantlen Polytechnic University will allow this theme area to showcase their work in integrated pest management, soil health and other aspects of the work carried out at Kwantlen's Institute for Sustainable Horticulture.

Programming objectives:

To display techniques for the sustainable gardening including:

- Integrated Pest Management (IPM)
- Soil Health
- Waterwise Gardening
- Xeriscaping
- Maintenance techniques
- Choice of appropriate plant species



Precedent:

- City Farmer Demonstration Garden (Vancouver)

6.4. Theme Area D: Invasive Plant Species Education

Rationale:

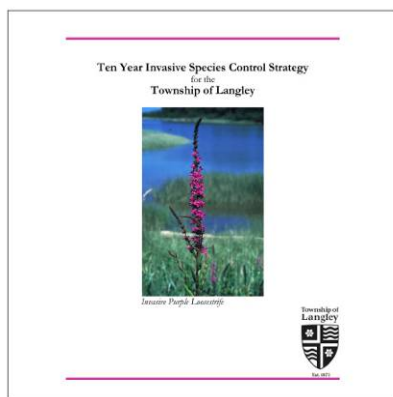
The Township of Langley is home to numerous invasive species, which pose a threat to local biodiversity. In an effort to raise awareness and manage invasive species, the Township partnered with Langley Environmental Partners (LEPS) to develop a 10-year Invasive Species Control Strategy. This Strategy was adopted in 2007. LEPS and Kwantlen Polytechnic University have both done work in this area, and have expressed an interest to work together with the Township to produce the displays.

Programming objectives:

To educate the public about the history, identification, and management of significant invasive species in the Township. Display panels will present the “Big Six” invasive species that were selected by the Township in their Invasive Species Strategy for on-the-ground control and management:

4. Giant Hogweed
5. English Ivy
6. Japanese Knotweed
7. Purple Loosestrife
8. Himalayan Balsam
9. Tansy Ragwort

In addition to interpretive panels about the “Big Six”, suitable and readily available garden alternatives will be grown in a display area.



Precedent:

Invasive Plant Council of BC is a resource

6.5. Theme Area E: Aesthetic Use of Plants

Rationale:

While other theme areas focus on the many multi-functional uses of plants, Theme Area E will focus on the aesthetic use of plants. Themed display areas will explore the aesthetic qualities of small perennials and shrubs such as form, texture, colour, architectural uses, fragrance, and seasonal interest. Displays will emphasize:

- Use of plants to enhance human wellbeing and quality of life.
- Arrangement and management of plants in an urban context for aesthetic as well as practical purposes.

Programming objectives:

- To explore the aesthetic use (form, texture, colour, architectural uses, fragrance and seasonal interest) of small perennials and shrubs.



Precedents:

- Van Dusen Botanical Garden (City of Vancouver)
- UBC Botanical Garden (University of British Columbia)

7. CONCLUSION

The Derek Doubleday Arboretum is a unique site with the potential to play significant role in the parks and open space system in the Township of Langley. The arboretum and sustainable horticulture centre will be a legacy for current and future generations.

8. REFERENCES

Braun Geotechnical Ltd, 2009. Preliminary Geotechnical Exploration Report Proposed Parking Lot and Access – Derek Doubleday Arboretum 21200 Block 56th Avenue, Langley, B.C. November 3, 2009.

Harris and Dines, 1998. Time Saver Standards for Landscape Architecture, Section 660 Sound Control. McGraw-Hill.

Herman, Bill. 2008. Soil Analysis for Proposed Botanical Garden, prepared for the Township of Langley. Pacific Soil Analysis, Richmond BC. March 24, 2008.

Port Royal Community Garden. <http://garden.myteamsite.ca>, Accessed Nov 5, 2009.

Appendix A: Geotechnical Report



***Foundations,
Excavation &
Shoring
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Foundations

***Excavation &
Shoring***

Slope Stability

Natural Hazards

***Pavement Design
and Management***

***Reinforced Soil
Walls and Slopes***



Rev. Sept 15, 2006

November 3, 2009

Reference: 09-5326

Via email: chearn@elac.bc.ca

LEES + Associates Landscape Architects and Planners

#509 – 318 Homer Street
Vancouver, B.C.
V6B 2V2

Attn: Catriona Hearn, BA, BLA

Re: Preliminary Geotechnical Exploration Report
Proposed Parking Lot and Access – Derek Doubleday Arboretum
21200 Block 56th Avenue, Langley, B.C.

1.0 INTRODUCTION

As requested, Braun Geotechnical Ltd. (Braun) has carried out a geotechnical exploration and assessment for the design and construction of proposed access road and parking lot areas at the existing Derek Doubleday Arboretum located at the above referenced site.

The geotechnical work has been performed in general accordance with the Braun geotechnical proposal dated August 19, 2009 (Our reference no. P09-3306). The scope of work included a geotechnical exploration and provision of preliminary geotechnical comments and recommendations development of the proposed onsite parking and roadway facilities. Preliminary geotechnical recommendations for potential future development of single storey building to be situated north east of the proposed parking area have also been provided.

Braun Geotechnical should be forwarded the final architectural, civil and structural drawings when they become available and be provided the opportunity to comment on geotechnical aspects of proposed site development.

2.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The Derek Doubleday Arboretum is a 12 acre site bounded by the Fraser Highway, the Langley Regional Airport, the Nicomekl River and 56 Avenue. It is understood that the land is located within the Agricultural Land Reserve.

The proposed parking and roadway areas are generally located within the south west portion of the site as shown on the preliminary concept sketch by Lees + Associates. At the time of field exploration the subject parking lot area consisted of a relatively flat, vegetated grass field area.

It is understood that the Township of Langley is considering developing a “green” parking lot that may include consideration for permeable pavement surfacing materials and/or possible bio-retention ponds located in medians and landscape areas.

3.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

The geotechnical exploration was conducted on October 26, November 1 & 2, 2009 and included a total of 8 test pits (TPs 09-1 to 8) excavated to depths up to 2.5m and three field percolation tests conducted at a depth of about 0.7m. Test pits were excavated using a rubber-tire backhoe retained under subcontract to Braun. Field Percolation tests were carried out using general BC Ministry of Health test procedures over a duration of approximately 24 hours.

The test pits and percolation tests were carried out in the field under the direction of an Engineer from Braun and representative soil samples gathered were returned to the laboratory for further classification and moisture content testing. Approximate test pit and percolation test locations as well as the current concept design are shown on the attached Testhole Location plan (Dwg. 09-5326-01).

4.0 SOIL AND GROUNDWATER CONDITIONS

A review of available published geological and geotechnical information indicated that the site area is underlain Capilano Sediments comprised of firm to stiff marine clay/silt.

The findings of the geotechnical exploration are detailed on the attached test pit summary sheet and should be referred to for details of subsurface conditions encountered at each test pit location. Subsurface conditions encountered at test hole locations were found to be reasonably consistent with available published geological information. A generalized subsoil profile based on the test holes is summarized below.

Existing surficial organic rich soils were encountered at each test pit location and extended to depths of 0.3 to 0.5m. Natural compact/stiff very fine sand and silt soils were encountered below the surface organic soils at each test pit location and extended to the depths of excavation.

Groundwater seepage was not encountered within test pits during exploration. Note that groundwater levels are expected to fluctuate seasonally, and with drainage and creek conditions.

The subsurface conditions described above were encountered at the test pit locations only. It should be noted that subsurface conditions at other locations and below the depths explored could vary.

Percolation Testing:

Field Percolation rates were measured as 8 mm per hour at PT09-1, and about 5mm per hour at PT09-2 and -3. The marginally faster percolation rate at PT09-1 was attributed to a higher sand component of the underlying natural soils as observed at this location.

The average percolation rate determined in the field at PT09-1 is considered equivalent to a factored infiltration rate of approximately 1.4mm/hour. The average percolation rate determined in the field at PT09-2 & -3 is considered equivalent to a factored infiltration rate of approximately 0.8mm/hour. Factored Infiltration rates were calculated using the City of Abbotsford analysis procedure that includes an infiltration area factor and a Factor of Safety of 3.0.

It is recommended that the lower factored infiltration rate of 0.8mm per hour as determined at PT09-2 & -3 be adopted for the project.

5.0 RECOMMENDATIONS

5.1 General

The test pits encountered a near surface zone of organics and organic rich fine grained soils underlain by mottled grey-brown compact/stiff fine sand and silt soils.

The underlying natural compact/stiff sandy silt soils are considered to be a suitable subgrade for onsite drained roadway and parking area pavements. Based on the findings from percolation testing the underlying natural soils are considered to have a low permeability. In addition, the fine-grained subgrade soils are considered susceptible to damage under traffic load in saturated conditions.

If selected for the project, it is recommended that pervious paving surfaces incorporate a suitable sub-drainage piping system installed below design subgrade elevation to facilitate drainage of pavement base/subbase materials. The partial infiltration / drainage system should be designed so to reduce potential for damage of the pavement structure due to overloading of the system under greater than design storm events, and in the event of sequential design (or sub-design) storm events. Drained pavement section materials are required in order to avoid direct transfer of surface wheel loads down to subgrade (ie. no load distribution).

The underlying natural compact fine sand silt soils are also considered suitable for direct support of conventional shallow strip and spread footings for the future development of the proposed relatively light building structure.

Specific geotechnical recommendations are provided in subsequent sections of the report.

5.2 Stripping

Stripping below the proposed parking lot, roadway and building areas should include removal of all vegetation, organic soils, soft disturbed soils and existing fills down to the underlying undisturbed natural compact/stiff fine sand and silt soils. Stripping depths encountered at Test Pit Locations varied from 0.3 to 0.5m below existing site grades.

Natural soils at the site are considered moisture sensitive and prone to softening if disturbed. An excavator equipped with a smooth edged bucket should be used for final trimming. Construction equipment traffic should not be permitted on natural subgrades without prior placement of a protective zone of granular fill. Excavations carried out in periods of heavy rainfall should be backfilled immediately after exposure.

Localized individual pockets of over excavation on the design subgrade resulting in potential for “bird-bath” conditions should be avoided if possible. If required to remediate “bird-bath” conditions backfill to design subgrade using high fines granular base materials, and or provision of adequate drainage measures may be required.

Stripped surfaces should be reviewed by Braun at the time of construction to confirm subgrade soil and drainage conditions.

5.3 Structural Fill & Trench Backfill

Subgrade restoration fills & general trench backfills below roadway areas should consist of structural fill comprised of MMCD compliant subbase material with less than 5% fines (percent passing the #200 sieve). As aforementioned permeable pavement subgrades may require subgrade fill restoration comprised of high fines granular base materials within localized pockets of over-excavation and should be evaluated at the time of construction if encountered.

Structural fill should be placed and compacted in maximum 300mm loose lifts with each lift compacted to at least 95% Modified Proctor Density (MPD). Structural fills placed under pavement areas and foundation footings should extend beyond the edges of the footings a distance equal to the depth of confined structural fill. Note that unconfined structural fill (ie. Sloping surface grades) should extend beyond by a distance at least twice the depth of unconfined structural fill.

Density testing during site fill placement should be carried out on a regular basis to confirm adequacy of compaction, and the results forwarded to Braun Geotechnical for review. Braun Geotechnical should be contacted to review fill quality, and placement and compaction procedures.

5.4 Temporary Cuts - Utility Trenches (If Required)

In general, excavations up to 1.2 m deep can be cut near vertical in accordance with WCB regulations. Deeper cuts into should be sloped or shored.

It is anticipated that any utility line excavations deeper than 1.2m may be achieved using conventional excavation trench box methods. It is anticipated that any excavation dewatering (if required) may be accomplished with conventional sumps and pumps.

5.5 Proposed Asphalt Pavements – Hot Mix Asphalt (HMA)

With subgrade preparation completed in the manner recommended above, the minimum recommended HMA pavement structure for the proposed offsite parking and roadways are outlined below.

<i>HMA Paved Areas</i>	<i>Material</i>
75mm	Asphaltic concrete Surface (MMCD Hot Mix Asphalt, HMA)
100mm	Base Course (MMCD Sec. 2226 & 2223)
300mm	75mm minus Crushed Granular Subbase (MMCD Sec. 2226.2.9 & 2234)

Note that the asphalt layer thickness may be reduced to 65mm in parking areas that are not typically subjected to heavy vehicle traffic, such as parking stalls.

The gradation of the above materials should comply with the appropriate Master Municipal Specifications outlined above, except that all gravels should have a maximum 5% fines (percent passing the #200 sieve).

The road construction materials should be placed and compacted in compliance with the current MMCD specifications. Adequate drainage and/or cross falls should be provided to ensure that the base and subbase materials will not become saturated.

5.6 Permeable Pavements Surfaces

It is understood that permeable pavement surfaces being considered for the project and may include concrete paving stones with gapped joints located within parking stall areas.

Local published Guidelines for the design of permeable pavement surfaces are provided in the GVRD (Metro Vancouver) Stormwater Source Control Guidelines 2005. The noted guidelines designate three types of pervious pavement designs that are generally governed by infiltration rates of the underlying subgrade soils.

Based on the results of field infiltration testing, and in accordance with the referenced guideline document, it is recommended that any permeable parking areas be designed for partial infiltration with a subdrainage system located below the base of the parking lot fills.

It is recommended that a factored infiltration rate of 0.8mm per hour as determined at PT-02 & -03 be adopted for the project. We note that the infiltration rate of the natural subgrade soils is expected to decrease over the life of the pavement structure as a result of fines migration. As such, it is recommended that the subdrainage piping system be sized to accommodate the full design inflow.

Note that typical criteria for assessing suitability of a site for management of stormwater by infiltration methods includes the criterion for a saturated percolation rate of not less than 12mm per hour (BCMELP Land Development Guidelines for Protection of Aquatic Habitat, 1993). Recent stormwater management studies have indicated that percolation rates as low as 1.0 to 2.0 mm per hour may be possible to use in design (East Clayton Stormwater Management Study, Surrey, BC). However, at very low rates, the design infiltration surface for full infiltration becomes impractical, and potential for overloading design infiltration galleries by relatively minor, but sequential rainfall events is considered likely.

The minimum recommended pavement structure for the proposed permeable pavements is provided below. The specified granular base and subbase materials refer to ASTM products most commonly used in the Ready Mix Concrete industry. Note that additional thickness of granular subbase may be required for adequate reservoir storage purposes, and should be evaluated as part of the design development.

<i>Permeable Pavements</i>	<i>Material</i>
80mm	Unit Paver Thickness (typical)
50mm	Paver Bedding Course (Gradation to meet ASTM – No.8 Specification)
--	Non Woven Geotextile – (Nilex 4545 or equivalent) (AOS > 0.3mm, Grab Tensile Strength > 400N)
100mm	Base Course (Gradation to meet ASTM – No.57 Specification)
300mm	Granular Subbase (Gradation to meet ASTM – No.2 Specification)

The gradation of the above materials should comply with the appropriate ASTM designation as outlined above. All gravels should have a maximum 2% fines (percent passing the #200 sieve). Material placement and compaction should comply with the appropriate Master Municipal Specifications.

Specific geotechnical recommendations for the design of the proposed permeable pavements are provided as follows:

- Drainage pipes should be installed in trenches (max 20m spacing typical) below the granular subbase and drain by gravity for off site disposal. The drain system should consist of a minimum 150mm diameter perforated PVC pipe, surrounded with at least 150mm of 19mm clear crushed gravel. In addition, a minimum 150mm birdseye gravel should be placed over the clear crushed gravel to act as a filter. The invert of the drains should be located a minimum of 450mm below the underside of the design subgrade level. Drainage pipe flush outs should be provided for maintenance purposes.

- Pavement subgrades should include a minimum 2% cross fall directed to the underlying drainage pipe network.
- A Nonwoven Geotextile with an Apparent Opening Size (AOS) of at least 0.3mm and grab tensile strength of at least 400N (Nilex 4545 or approved equivalent) should be placed along the top sides of the proposed permeable parking lot ‘reservoir’ fills. The geotextile should be overlapped by a minimum of 0.6m along fabric seams. Note that it is expected that the migration of fines into the geotextile placed at the top of the reservoir would require periodic maintenance that may include removal and replacement over the anticipated life of the proposed pavement structure.
- Placement and compaction of permeable pavement surfacing materials (ie pavers and aggregate binder materials) should be done in accordance with the manufacturer’s specifications.

5.7 Foundation Design

It is anticipated relatively lightly loaded building structures at the site may be supported on conventional spread and strip footings founded on the compact/stiff near surface natural fine sand and silt soils or on structural fill placed on this subgrade. It is understood that potential future development of single storey building (possibly modular) situated north east of the proposed parking area is currently being considered.

The following soil resistance (bearing) values may be adopted for preliminary foundation design:

Foundation Subgrade	Limit States Design (ULS)		Working Stress Design
	Factored Ultimate Bearing Capacity	Serviceability Limit State (SLS)	Allowable Bearing Pressure DL + LL
Approved Undisturbed Native Soils or Compacted Structural Fill	185 kPa (3800 psf)	125 kPa (2600 psf)	125 kPa (2600 psf)

Note: Larger bearing values may be feasible for specific situations, and can be reviewed upon request.

The above design bearing pressures for soil subgrade assume the following:

- Strip and pad footings have minimum widths of 400mm (16”) and 600mm (24”), respectively.
- Footings are founded at least 450mm (18”) below final finished adjacent grade. Interior footings are founded at least 300mm (12”) below slab elevation for confinement.
- Site preparation is completed as indicated above and load-bearing surfaces are reviewed and approved by the Geotechnical Engineer.
- Foundation bearing surfaces are no higher than 2H:1V (Horizontal to Vertical) from the base or toe of adjacent walls, retaining structures, etc.
- Footings are placed below a 1H:1V line projected up from lower footings or buried structures such as utility lines, sumps, etc.

Communication between the Architect, Structural and Geotechnical consultants should be anticipated in order to discuss the proposed building structure and design options prior to

finalizing proposed foundation systems. We note that no building concept, structural, or architectural information was available at the time of report preparation.

6.0 GEOTECHNICAL FIELD REVIEWS

Geotechnical field reviews are required by the Geotechnical Engineer of Record to confirm that the recommendations of the geotechnical report are understood and followed. Geotechnical field reviews should be arranged by the Contractor to address the following:

- Review site stripping;
- Confirm suitability of exposed subgrades;
- Review drainage systems (geotechnical aspects);
- Review and density testing of structural and/or pavement section fills;
- Concrete testing for curb & gutters;
- Asphalt hot mix field sampling and Marshall Mix design testing;
- Retrieval of asphalt cores for thickness and density.

7.0 CLOSURE

This report should be considered preliminary and is subject to review and revision as required, once Architectural, Civil and Structural drawings have been finalized and the final pavement material types have been selected. This report is prepared for the exclusive use of LEES + Associates Landscape Architects and Planners and their designated representatives and may not be used by other parties without the written permission of Braun Geotechnical Ltd. The Township of Langley may also rely on the geotechnical recommendations provided in this report.

If the development plans change, or if during construction soil conditions are noted to be different from those described in this report, Braun must be notified immediately in order that the geotechnical recommendations can be confirmed or modified, if required. Further, this report assumes that field reviews will be completed by Braun during construction.


The site contractor should make their own assessment of subsurface conditions and select the construction means and methods most appropriate to the site conditions. This report should not be included in the specifications without suitable qualifications approved by the geotechnical engineer.

The use of this assessment report is subject to the conditions on the attached Report Interpretation and Limitations sheet. The reader's attention is drawn specifically to those conditions, as it is considered essential that they be followed for proper use and interpretation of this report.

We hope the above meets with your requirements. Should any questions arise, please do not hesitate to contact the undersigned.

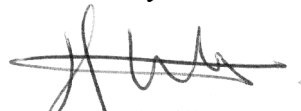
Yours truly,

Braun Geotechnical Ltd.



Stuart Hrysio, P.Eng.
Geotechnical Engineer

Reviewed By:



James Wetherill, P.Eng.
Geotechnical Engineer

Encl: Report Interpretation and Limitation
Test Pit Summary Sheet
Location Plan

Z:\2009 Projects\09-5326 SH Derek Doubleday Arboretum\Report\Report 09-5326 2009-11-03 A.doc

REPORT INTERPRETATION AND LIMITATIONS

1. STANDARD OF CARE

Braun Geotechnical Ltd. (Braun) has prepared this report in a manner consistent with generally accepted engineering consulting practices in this area, subject to the time and physical constraints applicable. No other warranty, expressed or implied, is made.

2. COMPLETENESS OF THIS REPORT

This Report represents a summary of paper, electronic and other documents, records, data and files and is not intended to stand alone without reference to the instructions given to Braun by the Client, communications between Braun and the Client, and/or to any other reports, writings, proposals or documents prepared by Braun for the Client relating to the specific site described herein.

This report is intended to be used and quoted in its entirety. Any references to this report must include the whole of the report and any appendices or supporting material. Braun cannot be responsible for use by any party of portions of this report without reference to the entire report.

3. BASIS OF THIS REPORT

This report has been prepared for the specific site, development, design objective, and purpose described to Braun by the Client or the Client's Representatives or Consultants. The applicability and reliability of any of the factual data, findings, recommendations or opinions expressed in this document pertain to a specific project as described in this report and are not applicable to any other project or site, and are valid only to the extent that there has been no material alteration to or variation from any of the descriptions provided to Braun. Braun cannot be responsible for use of this report, or portions thereof, unless we were specifically requested by the Client to review and revise the Report in light of any alterations or variations to the project description provided by the Client.

If the project does not commence within 18 months of the report date, the report may become invalid and further review may be required.

The recommendations of this report should only be used for design. The extent of exploration including number of test pits or test holes necessary to thoroughly investigate the site for conditions that may affect construction costs will generally be greater than that required for design purposes. Contractors should rely upon their own explorations and interpretation of the factual data provided for costing purposes, equipment requirements, construction techniques, or to establish project schedule.

The information provided in this report is based on limited exploration, for a specific project scope. Braun cannot accept responsibility for independent conclusions, interpretations, interpolations or decisions by the Client or others based on information contained in this Report. This restriction of liability includes decisions made to purchase or sell land.

4. USE OF THIS REPORT

The contents of this report, including plans, data, drawings and all other documents including electronic and hard copies remain the copyright property of Braun Geotechnical Ltd. However, we will consider any reasonable request by the Client to approve the use of this report by other parties as "Approved Users." With regard to the duplication and distribution of this Report or its contents, we authorize only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of this Report by those parties. The Client and "Approved Users" may not give, lend, sell or otherwise make this Report or any portion thereof available to any other party without express written permission from Braun. Any use which a third party makes of this Report – in its entirety or portions thereof – is the sole responsibility of such third parties. BRAUN GEOTECHNICAL LTD. ACCEPTS NO RESPONSIBILITY FOR DAMAGES SUFFERED BY ANY PARTY RESULTING FROM THE UNAUTHORIZED USE OF THIS REPORT.

Electronic media is susceptible to unauthorized modification or unintended alteration, and the Client should not rely on electronic versions of reports or other documents. All documents should be obtained directly from Braun.

5. INTERPRETATION OF THIS REPORT

Classification and identification of soils and rock and other geological units, including groundwater conditions have been based on exploration(s) performed in accordance with the standards set out in Paragraph 1. These tasks are judgemental in nature; despite comprehensive sampling and testing programs properly performed by experienced personnel with the appropriate equipment, some conditions may elude detection. As such, all explorations involve an inherent risk that some conditions will not be detected.

Further, all documents or records summarizing such exploration will be based on assumptions of what exists between the actual points sampled at the time of the site exploration. Actual conditions may vary

significantly between the points investigated and all persons making use of such documents or records should be aware of and accept this risk.

The Client and "Approved Users" accept that subsurface conditions may change with time and this report only represents the soil conditions encountered at the time of exploration and/or review. Soil and ground water conditions may change due to construction activity on the site or on adjacent sites, and also from other causes, including climactic conditions.

The exploration and review provided in this report were for geotechnical purposes only. Environmental aspects of soil and groundwater have not been included in the exploration or review, or addressed in any other way.

The exploration and Report is based on information provided by the Client or the Client's Consultants, and conditions observed at the time of our site reconnaissance or exploration. Braun has relied in good faith upon all information provided. Accordingly, Braun cannot accept responsibility for inaccuracies, misstatements, omissions, or deficiencies in this Report resulting from misstatements, omissions, misrepresentations or fraudulent acts of persons or sources providing this information.

6. DESIGN AND CONSTRUCTION REVIEW

This report assumes that Braun will be retained to work and coordinate design and construction with other Design Professionals and the Contractor. Further, it is assumed that Braun will be retained to provide field reviews during construction to confirm adherence to building code guidelines and generally accepted engineering practices, and the recommendations provided in this report. Field services recommended for the project represent the minimum necessary to confirm that the work is being carried out in general conformance with Braun's recommendations and generally accepted engineering standards. It is the Client's or the Client's Contractor's responsibility to provide timely notice to Braun to carry out site reviews. The Client acknowledges that unsatisfactory or unsafe conditions may be missed by intermittent site reviews by Braun. Accordingly, it is the Client's or Client's Contractor's responsibility to inform Braun of any such conditions.

Work that is covered prior to review by Braun may have to be re-exposed at considerable cost to the Client. Review of all Geotechnical aspects of the project are required for submittal of unconditional Letters of Assurance to regulatory authorities. The site reviews are not carried out for the benefit of the Contractor(s) and therefore do not in any way effect the Contractor(s) obligations to perform under the terms of his/her Contract.

7. SAMPLE DISPOSAL

Braun will dispose of all samples 3 months after issuance of this report, or after a longer period of time at the Client's expense if requested by the Client. All contaminated samples remain the property of the Client and it will be the Client's responsibility to dispose of them properly.

8. SUBCONSULTANTS AND CONTRACTORS

Engineering studies frequently requires hiring the services of individuals and companies with special expertise and/or services which Braun Geotechnical Ltd. does not provide. These services are arranged as a convenience to our Clients, for the Client's benefit. Accordingly, the Client agrees to hold the Company harmless and to indemnify and defend Braun Geotechnical Ltd. from and against all claims arising through such Subconsultants or Contractors as though the Client had retained those services directly. This includes responsibility for payment of services rendered and the pursuit of damages for errors, omissions or negligence by those parties in carrying out their work. These conditions apply to specialized subconsultants and the use of drilling, excavation and laboratory testing services, and any other Subconsultant or Contractor.

9. SITE SAFETY

Braun Geotechnical Ltd. assumes responsibility for site safety solely for the activities of our employees on the jobsite. The Client or any Contractors on the site will be responsible for their own personnel. The Client or his representatives, Contractors or others retain control of the site. It is the Client's or the Client's Contractors responsibility to inform Braun of conditions pertaining to the safety and security of the site – hazardous or otherwise – of which the Client or Contractor is aware.

Exploration or construction activities could uncover previously unknown hazardous conditions, materials, or substances that may result in the necessity to undertake emergency procedures to protect workers, the public or the environment. Additional work may be required that is outside of any previously established budget(s). The Client agrees to reimburse Braun for fees and expenses resulting from such discoveries. The Client acknowledges that some discoveries require that certain regulatory bodies be informed. The Client agrees that notification to such bodies by Braun Geotechnical Ltd. will not be a cause for either action or dispute.

Braun Geotechnical Ltd.
Derek Doubleday Arboretum
Test Pit Summary

2009-Nov-03
09-5326

	Test Pits - (Depth of Stratum shown in Metres)							
Location :	TP09-1	TP09-2	TP09-3	TP09-4	TP09-5	TP09-6	TP09-7	TP09-8
Soil Type :								
Organic rich sand & silt with occasional gravel	0-0.5	0-0.3	0-0.4	0-0.4	0-0.3	0-0.3	0-0.3	0-0.5
Mottled grey brown compact/stiff v. fine sand and silt	0.5-1.5	0.3-2.5	0.4-1.0	0.4-1.5	0.3-1.5	0.3-1.5	0.3-1.5	0.5-1.5
Sample Depth (m)	0.9	0.9	0.9	0.9	0.9	n/a	0.9	0.9
Moisture Content (%)	22%	21%	30%	30%	30%		26%	24%
End of Test Pit Depth (m)	1.5	2.5	1.0	1.5	1.5	1.5	1.5	1.5
Minimum stripping depth for pavement subgrade (m)	0.5	0.3	0.4	0.4	0.3	0.3	0.3	n/a

Notes:

- 1.) Excavation of pits completed on October 26, 2009 using a rubber tire back-hoe retained under subcontract to Braun.
- 2.) Depths provided in meters below existing site grades.
- 3.) The actual required site stripping may vary between test pit locations and should be evaluated by the Geotechnical Engineer at time of new construction.
- 4.) Approximate Test Pit locations shown on attached location plan.



	Rev.	Description	Date	Client LEEB + ASSOCIATES LANDSCAPE ARCHITECTS	Title TESTHOLE LOCATION PLAN		
				Project PROPOSED PARKING FACILITY DEREK DOUBLEDAY ARBORETUM, LANGLEY BC			
				Project no. 09-6328	Drawn BGL	Design SH	Checked JW
				Date 08 Nov 03	Scale = 1:1000	Drawing no. 09-6328-01	

Appendix B: Community Garden Guidelines

Derek Doubleday Arboretum – Proposed Community Garden Guidelines

Roles

Role of the Township of Langley Recreation, Culture and Parks Department

The Recreation, Culture and Parks Department will support the development of the Derek Doubleday Arboretum Community Garden in the Township of Langley by:

- Providing access to information on the development and operation of community gardens.
- Assisting in the development of user agreements.
- Assisting with horticultural information and guidelines.
- Monitoring the overall operation of the community garden.
- Maintaining all of the permanent aspects of the garden (eg. tool shed, arbors, water supply system).
- Maintaining the grounds surrounding the garden plots.
- Approving garden plot fees and all proposed changes, improvements or additions to the garden.

Role of the Community Garden Members

All Community Garden members will:

- Help create a community garden spirit by helping fellow gardeners.
- Visit your garden plot often and get to know your fellow community gardeners. Find ways to pitch in to help in maintaining your site.
- Be respectful of the Derek Doubleday Arboretum's commitment to demonstrate sustainable gardening practices.
- Attend bi-annual community garden meetings (member meetings only).
- Report potential vandalism.
- Report any problems, concerns or criticisms to the chairperson of the Community Garden Committee.
- Abide by the rules and regulations of the Community Garden Committee and maintain their plots to a high standard.

Purpose of the Community Garden Committee

- Provide opportunities for non-profit, recreational fruit, flower and vegetable gardening for residents of the Township of Langley.
- Assist members to improve their knowledge and skills of sustainable horticultural.

- Promote an understanding of the natural processes of food growing.
- Promote an awareness of the importance of urban agriculture and food production in Langley.

Role of the Derek Doubleday Arboretum Community Garden Committee

- To develop and operate the garden according to a user agreement which will specify the terms of use, user responsibilities, user fees and access procedures.
- To monitor and ensure that the overall standard of maintenance of the garden plots is upheld by its members and the rules and regulations of the plot agreement are upheld.
- To adhere to maintenance standards set by the Township of Langley Recreation, Culture and Parks Department.
- To manage the membership of the Derek Doubleday Arboretum Community Garden.
- To hold Community Garden meetings on a quarterly basis.

Membership and Fees

All members shall pay an annual membership fee of \$5.00. Membership is mandatory for all plotholders. Plotholders shall pay a rental of \$25.00 per plot. Fee changes are subject to annual review.

Plot renewal fees should be paid by January 31st or the plot will be placed on the available plot list.

Refunds of fees shall not be given after March 31st of the membership year.

Allotments of space must be made from a waiting list on a first come first served basis. The deadline for acquiring a plot is March 31st of each year.

Plots will be allotted 1 plot per family until the waiting list has been satisfied and the deadline for acquiring plots has passed.

The fees collected will be used solely for the community garden. The Community Garden Committee will submit proposed expenditure of funds to the Recreation, Culture and Parks Department for approval by November 30th of each year

Lease and Operation

50 garden plots of varying sizes are available and shall be leased for periods of one year (January 1st to December 31st). An additional 10 plots are dedicated to the “Grow a Row Share a Row” program and are available to those wishing to participate in this program. A portion of fresh produce grown in these plots will be donated to the Langley Food Bank.

The opportunity to lease a plot is open to any resident of the Township of Langley.

Each plot will be as identified by a numbered site plan available to all members.

Cultivation of a plot shall begin no later than the may long weekend. The committee may cancel the lease of any plot on which cultivation has not begun by May 31st. Plots so released may be reallocated.

All plots shall be cleared at the end of the growing season. Green manure crops, perennials or winter crops must be planted. Failure to do so could result in the cancellation of future plot leases.

At all times plots shall be left in a tidy condition so that the general appearance of the site is not offensive.

Plot holders shall exercise reasonable discretion in the use of the water supply. No watering of plots shall take place overnight and running water shall not be left unattended. Municipal watering restrictions shall be adhered to.

Produce from the community garden shall not be sold or offered for sale. Plot holders are encouraged to donate excess produce for distribution to a local food bank.

Weeds are kept to a minimum. In the event of a garden plot not being adequately maintained, the Committee will notify plot holder and if not corrected, will reassign the plot.

Site Management

All plants must grow within the confines of the allocated plot including shoots, roots and leaves.

Garden organically to preserve soil fertility and avoid damaging the site ecosystem. This involves three main principals: 1) Feed the soil by using compost and cover crops to add organic matter and nutrients. (Chemical fertilizers are not permitted) 2) Apply natural mulches (such as hay or straw) to suppress weeds, reduce water loss, and add organic matter to the soil. 3) Use natural, botanical, and biological insect controls to avoid harming beneficial organisms and pollinators. (Synthetic pesticides are not permitted)

Diseased plants are to be disposed of in the garbage bin rather than the compost to reduce the transmission of diseases through compost soil.

Conserve water by watering plants in the morning or evening, rather than in the heat of the day. Apply water at the base of plants where possible. Keep hoses and connections in good repair. Use mulch (hay, straw, or grass clippings) to reduce evaporation from the soil.

The community tool shed with hand gardening tools are provided for everyone's use. Use them and treat them with respect so that others may use them also. Please clean garden tools, hoses, and carts and put them back in the tool shed after use.

No motorized garden tools (eg. leaf blowers, roto-tillers, hedge clippers) are permitted.

Landscape fabric is not allowed as it is less effective for weed control and is difficult to remove

after use.

No barriers to general public access can be erected on the site.

Respect all other plot holders and do not trespass upon other garden plots.

Clean up after dogs and keep them on a leash while in the garden area.

The community garden site shall be vacated between sunset and sunrise.

All garbage shall be put in bins daily and all green waste shall be composted on-site in the compost bins provided.

Structures in the Garden

Structures are to be kept to a minimum. Bamboo stakes under 4 feet above the ground and green coated tomato cages will be allowed. Permanent infrastructure in the community garden cannot be moved or altered. Willow grown on-site will be made available to members to construct stakes and trellises.

Use of colour in the community is encouraged.

Undesirable Plants

Poisonous Plants - Refer to the BC Poison Control Centre

Problem Plants - Choose plants that will grow within the confines of your plot. Vines and runners should be grown in containers that are buried in the ground.

Appendix C: Summary of Presentation Feedback



E . L E E S & A S S O C I A T E S C O N S U L T I N G L T D .

Meeting Minutes

Derek Doubleday Arboretum Presentation to Stakeholders

Date: 30-Sep-09

Location: Yorkson Creek Meeting Room, Township of Langley Civic Facility, 20338-65 Avenue, Langley, BC

Attending: Yolanda Leung – Landscape Design Coordinator
Al Neufeld – Manager, Parks Design & Development
Tab Buckner – Parks Operations Manager

Gloria Doubleday – Arboretum & Botanical Society of Langley
Bill Lindahl – Arboretum & Botanical Society of Langley
Les Clay – Rotary Club of Langley
Eric Bysouth – Rotary Club of Langley
Navnit Shah – Rotary Club of Langley
David Davidson – Associate Dean, Horticulture - Kwantlen Polytechnic University
David Truman – Arboretum & Botanical Society of Langley
Andrea Lawseth – Agricultural Stewardship, Langley Environmental Partners
Bob Puls – Langley Field Naturalists
Simon (Sam) Omelaniec – Langley Garden Club

Erik Lees – Lees + Associates
Catriona Hearn – Lees + Associates
Heidi Redman – Lees + Associates

Agenda:

1. Introductions
2. Consultant Presentation
3. Discussion
4. Next Steps

The consultants presented an overview of their site analysis, 5 proposed theme areas (A - Compost Demonstration, B - Invasive Plant Species Education, C - Plant Trials: Heirloom & Emerging, D – Waterwise Gardening, Xeriscaping and Water Conservation, E – Native Plants and Cultural Uses, and two alternative conceptual designs for the Derek Doubleday Arboretum. An open discussion of the concepts and theme areas followed.

The following is a summary of individual comments received from the stakeholders.



Comments on Conceptual Designs:

- Parking lot entry to be located at centre of site (Halfway between Old Yale Road & Farm Tunnel).
- Western end may have an Egress (right out) on City Lands
- Prefer a Right Out as well as entry to accommodate school buses
- Highway Widening is occurring within the Township right-of-way
- There will be a preloading period that may affect the edge of the site
- Derek Doubleday Arboretum Sign to be protected during highway works
- There are 5 community garden sites in Langley with waiting lists
- Like curved paths; universal access desired on connecting paths
- Low area at right side of plan not addressed in concept plan. One idea is for a more formal Japanese garden
- Township Operations needs storage (buildings, materials, vehicles) – (Note: Tab has provided area requirements)
- Desire for more trees – Arboretum concept – limitations for non-wetland species/ would be a change in direction from Feasibility Study
- Views of water are important; provide them or they will be created
- No full inundation of site is expected – high and dry areas above Top of Bank
- River Wynd environmental area (along Nicomekl) is protected by Department of Fisheries and Oceans
 - Pedestrian linkage will be along Fraser Highway - (Nicomekl too wide at this point for a pedestrian bridge)
- Sidewalks needed at both sides of new bridge or under (on City lands)
- Local residents should be able to access the site via trails
- Highway noise is a key issue– Move all development inwards away from noise? –
- A berm could provide noise abatement and enhance the experience
- Preload material as a source for berm construction? - coordinate with Engineering Department
- Activities can happen “below” berm on northern protected side
- Festivals and camping – concern raised for inconsiderate festival attendees
- ASLA Conference – Arboretum meetings:
 - Concerts
 - Opportunity to recruit new members to society
 - Fundraising opportunity
 - Showcase gardens (annually)
 - Eg. Private / landscape contractor installations
 - Fundraising
 - Exposure for Arboretum
- Local nurseries want to donate trees to this project – planting must be consistent with the Sustainable Horticulture Centre
- Floral display envisioned at base of sign to attract attention
- Include non-native plants (abiding by airport height restrictions)
- Need room for substantial building in long term
- Rotary is fundraising for pathways and building as potential projects



- Children – important to involve families via kids
- Whole site should be sustainable “on its own” – eg. parking lot design & construction
- Morton Arboretum as a precedent – permanent paver lot and bioswales in parking lot

Comments on Theme Areas:

- Area requirements for specific theme areas to be reviewed by ELAC
- More sustainable focus in general, rather than just “waterwise” gardening
- Consider soil depth and nutrient management; function of suburban landscape
- Formal research in “Plant Trials” theme area may not be possible due to long term nature of scientific research and lack of space on the site
- Important to showcase First Nations/cultural uses
- First Nations Totem suggested as a possible attraction
- Invasive species info is desirable – available from LEPS
- Pest management in general could be theme rather than just invasive species
- “Living next to water” could be theme

Next Step: 2nd Presentation to Stakeholders: October 20, 2009

Sustainable Horticulture Centre at the Derek Doubleday Arboretum

Stakeholder List
Yorkson Creek Meeting Room 1:00 - 2:00pm
 December 9, 2009

- | | |
|--|--|
| <p><input type="checkbox"/> Yolanda Leung
Landscape Design Coordinator
T. 604-533-6014 E. yleung@tol.bc.ca</p> <p><input type="checkbox"/> Al Neufeld
Manager, Parks Design & Development
T. 604-533-6085 E. aneufeld@tol.bc.ca</p> | <p><input type="checkbox"/> Tab Buckner, Parks Operations Manager
T. 604-532-3504 E. tbuckner@tol.bc.ca</p> <p><input type="checkbox"/> Blair Arbuthnot
Landscape Design Coordinator
T. 604-533-6128 E. barbuthnot@tol.bc.ca</p> |
| <p><input type="checkbox"/> Gloria Doubleday
T. 604-882-1166</p> <p><input type="checkbox"/> Bill Lindahl
T. 604-530-6679
E. bill_lindahl@hotmail.com</p> <p><input type="checkbox"/> Les Clay – Rotary Club of Langley
T. 604-530-5188 E. lesbevclay@shaw.ca</p> <p><input type="checkbox"/> Eric Bysouth – Rotary Club of Langley
T. 604-534-3133 E. erenb@telus.net</p> <p><input type="checkbox"/> Navnit Shah – Rotary Club of Langley
T. 604-534-5268 E. navnitshah@msn.com</p> <p><input type="checkbox"/> David Truman – Arboretum and Botanical Society of Langley
T. 604-533-4585 E. nerd2@telus.net</p> <p><input type="checkbox"/> David Davidson, Associate Dean – Horticulture
Kwantlen Polytechnic University
T. 604-599-3259 E. david.davidson@kwantlen.ca</p> <p><input type="checkbox"/> David Clements, Co-Director, Environmental Studies, Trinity Western University
T. 604-513-2121 ext. 3280 E. clements@twu.ca</p> <p><input type="checkbox"/> Brad Jalbert - Select Roses 22771 38 Avenue
T. 604-530-5786 E. selectroses@shaw.ca</p> <p><input type="checkbox"/> Bob Meighen, Langley Garden Club
T. 604-530-5349 E. rmeighen@shaw.ca</p> | <p><input type="checkbox"/> Simon (Sam) Omelaniec, Langley Garden Club
T. 604-534-9628 E. omel@shaw.ca</p> <p><input type="checkbox"/> Lorraine Byers, Langley Garden Club
T. 604-530-4020 E. larrainelesley@shaw.ca</p> <p><input type="checkbox"/> Andrea Lawseth – Agricultural Stewardship
Langley Environmental Partners,
T. 604-532-3515 E. alawseth@tol.bc.ca</p> <p><input type="checkbox"/> Bob Puls - Langley Field Naturalists
T. 604-856-7534
F. 604-856-7534 E. Robert@puls.ca</p> <p><input type="checkbox"/> Barb Fairclough – Farmhouse Garden, BCLNA
T. 604-309-5142 E. bcbgardens@shaw.ca</p> <p><input type="checkbox"/> Lesley Goodbrand - Langley Field Naturalists
lgoodbrand@shaw.ca</p> <p><input type="checkbox"/> Len Walters, Parks Manager
City of Langley
T. 604-514-2912 E. lwalters@langleycity.ca</p> <p><input type="checkbox"/> Gary Vlieg,
Director of Engineering, Parks and Environment
City of Langley
T. 604-514-2825 E. gvlieg@langleycity.ca</p> <p><input type="checkbox"/> Malcolm Weatherston, Director of Development
Mountain View Conservation Centre
Cel. 604-728-2080 E. malcolmw@shaw.ca</p> |

Meeting Summary

December 09, 2009 1:00 - 2:00pm

Sustainable Horticulture Centre at the Derek Doubleday Arboretum

Yorkson Creek Meeting Room, 4th Floor, Civic Facility

The Stakeholders – Yolanda Leung, Al Neufeld, Tab Buckner, Blair Arbuthnot, Gloria Doubleday, Bill Lindahl, Lorraine Byers, Andrea Lawseth, David Davidson, Les Clay, Navnit Shah, Eric Bysouth David Clements and Len Walter (1:45pm)

Guests – Erik Lees, Heidi Redman

Absent: Gary Vlieg, Bob Puls, Barb Fairclough, Bob Meighen, Lesley Goodbrand, and Brad Jalbert and Catriona Hearn

1. **Welcome & Introductions –**

Due to organizational changes, Al Neufeld informed the table that Yolanda Leung will no longer be involved with the Derek Doubleday Arboretum. Yolanda has been re-assigned to Green Infrastructure Services. Blair Arbuthnot of Parks Design & Development attended today's meeting.

At the September 2009 meeting, copies of Our Sylvan Heritage: A Guide to the Magnificent Trees of the South Fraser by Susan Murray were distributed to the attending stakeholders, as a token of appreciation. Lorraine Byers had not received her copy of this book in September and hers was presented at today's meeting. David Clements also received his copy late.

2. **Presentation by E. Lees + Associated**

Erik presented the overall concept plan. The building, parking lot and infrastructure have been concentrated at the south – along Fraser Highway. The community garden was reduced in footprint and number of plots. Additional lookouts were added on the water. The berms along Fraser Highway was reduced (papa berm, mama berm and baby berm) and a pathway proposed along the top of this berm to provide a different perspective.

Heidi Redman presented information on the theme areas.

- A. Compost Demonstration
- B. Sustainable Gardening
- C. Cultural Use of Plants
- D. Invasive Plant Species
- E. Aesthetic Uses of Plants

The following summarizes the comments:

Generally the Stakeholders liked the revised Master Concept Plan. Stakeholders asked for a copy of the plan. The plan will be distributed but no further changes are expected on the presented Master Concept Plan.

There was discussion about the community garden and concern expressed for the appearance and location of the community garden. It was agreed after discussion that the community garden has been shifted to the east, as requested. The community garden is expected to be a regular active part of the arboretum. There is a high demand for community garden plots and accessibility to those garden plots is very important, especially for seniors. The activity at the community garden, close to the parking lot is a security advantage. The guidelines for the Derek Doubleday Arboretum community garden could be developed to address garden plot appearance. Aspects of the Derek Doubleday Arboretum compliment the Sustainable Horticulture program and community kitchen at Kwantlen Polytechnic University.

Questions were asked and answered about site services, the building and designs for rainwater management. It was pointed out that this concept is a framework for development. As improvements to Fraser Highway are constructed and development of the Derek Doubleday Arboretum is undertaken, staff would coordinate the detailed design. Wide overhangs on the building were suggested for all-weather activities and protection. Provision of washroom facilities was noted as important to future users.

The centralized location of the building received approval because of the flexibility for use as a free facility and as a focal point in a future paid-admission facility.

3. **Status of project**

Al Neufeld summarized where the Design Development project by E. Lees + Associates. This Master Plan Concept is a guide. The consultants have prepared a report that outlines the background principles for the Derek Doubleday Arboretum, site analysis and programming for the implementation of the Derek Doubleday Arboretum. Detailed designs for two theme areas and the parking lot/entry will be prepared by the consultants along with a cost estimate for construction.

Next meeting: T.B.A.





1. MAIN ENTRANCE
The main entrance is enhanced with the relocation of the DDA entry sign



2. GREEN PARKING LOT & RAIN GARDEN
A sustainable parking lot demonstrates principles of water conservation



3. BERMS
A series of low berms serve to mitigate noise from Fraser Highway and create a unique identity for the site.



4. WELCOME CENTRE
A permanent building may use solar technology and sustainable building materials



5. BOARDWALK AND LOOKOUT
Elevated boardwalks lead to lookout points on the Nicomeki River and Fraser Creek.



6. DISPLAY GARDENS
Ornamental plantings along the main entry create an attractive welcome.



7. WATER FEATURE
A boulder with water feature conveys drainage water from the Welcome Centre roof to the conifer rain garden.



8. TREE COLLECTIONS
Tree collections showcase coniferous and deciduous tree families with native representatives



9. COMMUNITY GARDENS
Garden plots are allocated for local residents and school groups, and animate the site



10. THEME AREAS
Five theme areas are the basis for the site's core educational and interpretive programs



11. EVENTS & OUTDOOR CLASSROOM
Three formal gathering areas can accommodate groups of varying sizes



12. HEDGEROW
A mixed buffer along the southern perimeter provides habitat and screens highway traffic.



13. ARBOUR
Arbours serve as gateways and create a sense of enclosure for gathering spaces



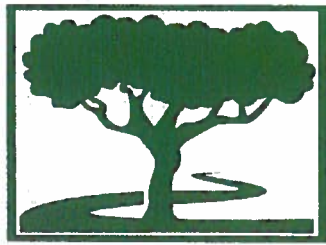
14. TOOL SHED
A subdivided structure near the community garden provides storage for the community and Township operations staff



15. INTERPRETIVE SIGNAGE
Situating at the info nodes, signs highlight site features and explain natural processes



16. OPERATIONS YARD
The operations yard is a transparent work site that demonstrates best maintenance practices



ABSL
ARBORETUM AND BOTANICAL
SOCIETY OF LANGLEY

23 Oct 2009

Yolanda Leung
 Community Development Division
 Parks Design & Development
 Township of Langley
 20338 65 Ave.
 Langley, BC V2Y 3J1

Yolanda:

The directors of the ABSL have met and discussed the Derek Doubleday Arboretum: Concept 3. Here are our comments.

In general, we are pleased to see that Concept 3 incorporates many of the ideas proposed at the previous stakeholder's meeting.

- In particular, we like the "tree clusters" which make the site into much more of an arboretum.
- We also like the general design of the paths, and the boardwalk and lookout.

We have the following concerns that we trust will be addressed in the final plan.

- Our most important concern is that the community gardens are too large, and their placement in the centre of the park will distract from the beauty of the surrounding areas and the aesthetic effects that would attract visitors to the arboretum. We propose that the gardens be reduced in size and be placed in the south-east section, adjacent to the tunnel. The tool shed, operations yard and composting areas should also be in the south-east area, away from the centre of the arboretum.
- The height of the berms and resulting steepness of the slopes may cause difficulty in maintaining the surface vegetation. If the berms must be that high for noise abatement, low maintenance ground covers and shrubs could be considered.
- The berms do present two opportunities however. We suggest that there could be a small viewing platform on the top of one of the berms, and also that the Welcome Centre could be embedded into the north slope of the centre berm – saving ground space, and demonstrating how to build a "green structure" into a hillside.
- We would want to ensure that the arbour walk trellis is not too high.
- We have continuing concerns over the intersection at Old Yale Road and the City's final plans for it. We trust that the Township will continue to work with the City in that regard.
- We envision that some people will want to access the Arboretum at the point of the tunnel. Provision for limited roadside parking should be made in that area.

We look forward to seeing the final conceptual plan for the Arboretum.

Sincerely,

Les Clay, Eric Bysouth, Gloria Doubleday, Bill Lindahl, Navnit Shah, David Truman

Township of
Langley



Est. 1873

REPORT TO MAYOR AND COUNCIL

PRESENTED: MAY 3, 2010 - SPECIAL MEETING
FROM: PROTECTIVE SERVICES
SUBJECT: ANNUAL REPORT FOR FIRE DEPARTMENT FOR 2009

REPORT: 10-64
FILE: 7380-20

RECOMMENDATION(S):

That Council receive for information the Annual Report for the Fire Department for 2009.

EXECUTIVE SUMMARY:

The Township Fire Department continued to experience high demand for assistance in 2009. Call volumes were similar to 2008. The types of calls received continued to change from those types of calls that are traditional for this Fire Department. This is a reflection of our changing demographics and the addition of full time firefighters in Willoughby, Aldergrove and Walnut Grove.

We continue to meet our commitment to respond within 8 minutes 90% of the time to the areas that are served by fulltime firefighters.

Our paid-call fire fighting forces were somewhat depleted and the Department continued an aggressive paid-call recruitment effort which increased the paid-call staff.

The Fire Department is responsible for managing the Township Emergency Program through a joint contract with Langley City and the provider Paratus Management. The program conducted and participated in several events and continues to work with both communities to help ensure we are prepared for any eventuality.

PURPOSE:

The purpose of this report is to provide information to Mayor and Council on the activities of the Fire Department in 2009.

DISCUSSION/ANALYSIS:

Department Staffing, Both Paid-call and Career

The Township of Langley Fire Department is a composite paid-call/career firefighting/rescue service. At the end of 2009 there were 126 paid-call firefighters and 67 career personnel. Many of our career personnel continue their commitment as members of our paid call forces although this will change as the Department unionization matures.

In 2009, paid-call firefighters continued to provide emergency responses in the Fort Langley, Murrayville, Brookwood and Otter communities. Traditionally, the turnover in paid-call ranks has averaged 10-15%. This is influenced by family commitments, call volume, availability and our changing community demographics. In January 2009, sixteen firefighters were selected from our paid call forces to staff the Walnut Grove station and there was also continued hiring of our paid-call firefighters by other career Departments. Paid-call firefighters are an important component of our service to the community and we will continue to examine ways to enhance and nurture our paid-call firefighter forces.

Career firefighters provide the majority of emergency response in Aldergrove, Willoughby and Walnut Grove. They are assisted as necessary by paid call firefighters. Other Department services such as Public Fire and Life Safety Education, Fire Prevention Inspections, Training and Administration are provided by career staff, supported by paid-call members.

Emergency Response Times

Response times are an important measurement in the delivery of emergency services. They are influenced by many factors including the nature and the location of the emergency, the time of day and traffic volumes. An important component of response time is preparation time. It is the time from the receipt of a call for assistance from Dispatch until the first apparatus leaves the Hall. In 2009 this measurement averaged 4:45 minutes for our paid-call response and 1:36 minutes with the advantage of on duty full time firefighters.

Total response time is the time from the receipt of a call for assistance until the first apparatus arrives on scene. It depends upon both preparation time and the distance of the incident from the Hall. In this regard our paid-call response component averaged 10:25 minutes and the response from fulltime firefighters averaged 7:35 minutes. The Department in consultation with the Mayor and Council decided in 2005 that an appropriate response time target would be less than 8 minutes 90% of the time in areas served by a response utilizing full time firefighters. We are meeting that objective.

It is to be noted that the major component of total response time is that of travel distance. This is also the component of which we have the least influence. The Township has large expanses of rural properties which contribute to long run distances.

Analysis of Response Types and Call Volumes

Emergency response is a major focus of Department operations, and call volume was similar in 2009 compared to 2008. In fact, there was one fewer call in 2009 than in 2008. The nature of the incidents to which the Department responds continues to change. In 2008 over 50% of requests for assistance were related to medical and/or motor vehicle accidents. Fires of all types were down 13% from 2008 statistics. Overall the Fire Department responded to 5082 requests for assistance.

The major change in the call statistics continues to reflect the change in some BC Ambulance Service protocols in dispatching medicals and motor vehicle accidents. In 2009 we responded to more than 2600 calls of this nature. In addition to standard medical protocols, the Department used Automatic External Defibrillators (AED's) to assist in the treatment of cardiac patients. Our statistics indicate we continue to arrive before BCAS and RCMP at the scene of a medical incident or motor vehicle accident in more than 60% of the responses.

The number of alarms was reduced in the commercial occupancies. Hazardous materials response is up dramatically due to fuel spills and illegal dumping of meth lab and other drug waste. We saw a decrease in vehicle fires although many of them are stolen vehicles that were intentionally set on fire. Grass and brush fires were up due to drier than normal seasonal conditions in the spring, summer and fall. Additional calls are being experienced due to mischief and vandalism with dumpster fires and small nuisance fires occurring in some sections of our community. Burning complaints increased substantially perhaps as a result of increased public awareness of the regulations. It is expected that these trends will continue as our population grows and our demographics change. Motor vehicle accidents, rescues and calls for medical assistance are all in a long term up trend. As well, the Department continues to work with RCMP and the Emergency Health Services to provide effective, efficient and excellent service to our citizens. The continued addition of full time firefighters will lessen the burdens and time demands and the resultant stresses on the individual paid-call firefighter.

Fire Prevention and Inspection

One of the primary roles of the Fire Department is to prevent fires from happening through our Fire Prevention and Inspection Division. Conducting fire inspections is a complex process which requires a thorough knowledge of fire cause and behaviour, building and fire codes and how buildings function under fire conditions. Fire Prevention Inspectors work diligently to correct hazards through a process of inspections and consultation with property owners to increase fire safety awareness.

Council policy requires inspections to be conducted between 6 – 18 months intervals depending on the nature of the occupancy and the risk involved. The prevention division continues to work closely with Building and Community Development departments with respect to development permit approvals, sprinkler and fire alarm plan review.

The Township of Langley is a leading example through the programs we have in place today. Our department implemented a company inspection program in 2008. The company inspection program allows full time suppression crews to acquire knowledge and interact with business owners and their patrons. This hands on approach allows firefighters to gain knowledge of the buildings in their response zones and adds a needed dimension to pre incident planning activities. The company inspection program provided an additional avenue for code enforcement with guidance from the fire prevention inspectors enhancing fire safety in Langley. This program continued to evolve and be fine-tuned in 2009 and is proving to be a valuable tool in reducing the probability of a fire occurring.

Pre-incident Plans

In order to reduce the risk to firefighters and the community, the Fire Prevention Division also produces comprehensive pre-incident emergency plans that provide quick access to information on structures in the community and assist in providing a proactive deterrent to potential fires. The Department is approaching 1400 current pre-incident plans of sites in Langley. In addition to creation of new plans, the Department annually reviews about 20% of the existing plans and updates them as necessary to ensure that the information is current and accurate when it might be needed by firefighters. The Department continues to place a major emphasis on both

inspections and pre-incident plans as means to prevent fires from occurring, and hence help to reduce the need for emergency responses. The Department is a leader in this field in British Columbia.

In 2009, the Department continued installing computers in all first due fire apparatus. This allows automatic updating by wireless technology to ensure the most up to date information is available to our responding firefighters. The implementation of computers on lead fire apparatus added an additional green benefit to the community by reducing the amount of paper printing necessary to keep the preplans up to date.

Public Fire and Life Safety Education

The Fire Department works to prevent fires from happening through public fire and life safety education. Educating the public about how to survive a fire and prevent fires from starting in the first place are important responsibilities. More and more, communities look to the Fire Department for information about how to keep their homes and families safe from fire and prevent injury.

The Township of Langley Fire Department reaches into the community and encourages positive change, through the delivery of an effective and comprehensive fire safety program to citizens of all ages. We believe that effective public fire and life safety education programs do not just happen, they are the result of knowing what to teach and how to teach it. The Fire Department's public education programs are designed to change attitudes and behaviors in order to create a safer community. The Township of Langley continues to lead in this field in British Columbia.

Our Public Educators reached over 25,000 of our citizens in 2009. They did this by focusing on three major areas of fire and life safety education. The Pre-school/Kindergarten programs reached over 2,000 children and almost 1,100 adults combining two elements in one; working with children to raise their basic fire safety skills and with the parents emphasizing fire safety in the home and how they can be a positive role model for their children. The Fire Safety House program was delivered in the spring to over 3,200 Grade 1 – 3 students teaching them how to recognize and escape a fire in the home. The Fire Cracker program was delivered in October to 1,200 Grade 4-7 students show them the hazards of unsafe and unsupervised handling of fireworks during the Halloween season. In addition the Department participated in several community events and displays such as Fort Langley May Day, Canada Day, the Aldergrove Fair and Christmas at Williams Park.

A reorganization of our Public Education Division resulted in a reduction of one position however we continue to respond to all requests for service and programming. We are, perhaps, the most successful Public Educators in Fire and Life Safety in the Province. Our educators are in demand not only locally but also around the Province.

Fire Department Training

In order to provide an effective response to emergency incidents, it is essential our firefighters be well-trained. To achieve this in 2009, the Department conducted almost 29,000 hours of training. Two paid-call recruit classes were held to train 20 new members' basic firefighting skills so that they would be safe on the fire ground. Department firefighters are trained to the BC Firefighter Standard (NFPA 1001-2002). All members of the Department are certified or actively working towards this certification. Officer seminars are provided 8 times each year on the fourth Wednesday of each month to keep officers current in developments and procedures in the Department. The Department also has a number of active training teams, which focus on their specialty area. They review and revise instructional materials to keep the programs and Department's practices current.

The Department hosts and organizes a Fire Officer I program in conjunction with Maple Ridge. In 2009 there were 28 participants from Langley, Maple Ridge, Pitt Meadows, Mission, Abbotsford and Chilliwack. Langley had 7 candidates in the program. This program follows the Maryland Fire and Rescue Institute Fire Officer I curriculum facilitated through North Vancouver District Fire Department meeting the NFPA 1033 standard for fire officers. The Department is also certified by the Fire and Safety Division of the Justice Institute to deliver and evaluate BC Firefighter Training, including the live fire components. Training was provided to numerous outside Fire Departments in 2008.

In addition, the training facility was used for training by Richmond Fire, Langley City Fire, Terasen Gas and the RCMP. There was also some minor use by industry. Revenues from such training support the operations of the Department and the training grounds.

Emergency Planning and Preparedness

Emergency planning and preparedness is a joint venture between Langley City and the Township. Ginger Sherlock of Paratus Management Inc. is the contract Emergency Program Coordinator for the Langley Emergency Program.

A major accomplishment for the program was the passing of a new Emergency Program Bylaw, allowing both Langley municipalities the ability to assist each other during a major event. The Langley Emergency Bylaw (City #2775 / Township # 4748) reflects the commitment put forth to ensure a coordinated response by both jurisdictions. The main Emergency Operations Centre (EOC) is located at the Murrayville fire hall and the alternate EOC is at the Langley City fire hall.

Emergency Operations Centre (EOC) bins for the alternate location were created with the Primary EOC bins being updated so they mirrored each other. BCERMS colour coding, laminated signage and checklists were added, along with logbooks and wall organizational charts. Wiring upgrades were completed at both sites.

Much of 2009 saw the population dealing with the World Health Organization's declared pandemic and we experienced the first and second wave of the H1N1 virus. Material was shared with staff and websites linked the public to more information. The Fraser Health Authority (FHA) asked municipalities to assist with identifying buildings for public vaccine clinics that were conducted in November and December throughout the region. Using FHA's parameters, the Langley Emergency Program worked with City and Township Recreational Departments and some local support agencies to identify locations. We were able to provide 12 local clinics for Langley residents without cost to FHA.

One main focus for the Langley Emergency Program was the functional EOC exercise conducted in October. There were nine different agencies on the design team, with over 70 participants, and articles were published in the local papers. Participants gained much insight and a better understanding of what was being asked of their involvement within the EOC setting.

The volunteer program has been very busy, with regular training and meetings, moving many initiatives forward. One such accomplishment is the new level of response, as we add portable Level 2¹ response kits. The completion of one of these kits was made possible through the generous donation from the Langley Rotary Club, and the countless hours donated by our ESS Directors and membership. Volunteer hours were logged and averaged over 400 hours a

¹ Level 2 – ESS is categorized by levels of response: level 1 being for a single family, level 2 up to 200 people, and level 3 for above 200.

month. This does not include the many volunteers who wear pagers and are on call 24/7, ready to assist the community.

Respectfully submitted,

Doug Wade
FIRE CHIEF
for
PROTECTIVE SERVICES

ATTACHMENT A	Department Staffing
ATTACHMENT B	Preparation Time (First Apparatus)
ATTACHMENT C	Response Time (First Apparatus)
ATTACHMENT D	Fire Prevention

Attachment A – Department Staffing

Paid-call Suppression Staff

Year	Start of year	Left	Joined	End of year
2000	148	16	15	147
2001	147	15	18	150
2002	150	6	15	159
2003	156	19	8	145
2004	145	17	21	149
2005	149	18	15	146
2006	146	16	9	139
2007	139	17	16	138
2008	138	26	20	132
2009	132	29	23	126

Reasons for paid-call members leaving the Department

Hired by career Department.

Lack of time to commit to the Department.

Leave of absence. Did not return.

Moved out of area.

Retired.

Career Staff

Year	Start of year	Retired	Joined	End of year
2000	19			19
2001	19		1	20
2002	20	1	2	21
2003	22		1	23
2004	23	1		22
2005	22	1	1	22
2006	22		16	38
2007	38	2	16	52
2008	52	1		51
2009	51	1	16	67

Attachment B – Preparation Time (First Apparatus)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Hall 2	4:33	4:05	4:00	3:31	3:25	3:36	3:58	3:59	3:42	3:51
Hall 3	4:54	5:43	4:55	4:58	4:55	5:07	5:18	5:36	5:02	5:04
Hall 4	5:15	4:35	4:03	4:05	4:42	4:05	3:56	3:02	3:53	3:50
Hall 5	6:04	5:16	4:38	4:43	5:15	5:29	5:02	5:08	4:46	5:00
Hall 6	5:11	5:02	4:22	4:49	4:44	4:55	4:34	5:07	5:22	5:14
Hall 7	5:13	5:20	5:18	5:31	5:51	5:58	5:52	6:31	6:05	6:07
Hall 8	5:03	4:46	4:33	4:56	4:31	4:21	4:11	3:53	4:17	4:09
Average	5:08	4:56	4:29	4:34	4:40	4:41	4:26	4:43	4:43	4:45
Fulltime							2:11	1:45	1:31	1:36

Attachment C – Response Time (First Apparatus) – total of dispatch, preparation and travel times

	200 0	200 1	200 2	200 3	200 4	200 5	200 6	200 7	200 8	200 9
Hall 2	10:27	9:29	9:54	9:08	9:11	9:05	10:06	9:51	9:25	10:43
Hall 3	9:26	10:44	9:49	10:05	9:42	10:12	10:43	11:46	9:55	8:41
Hall 4	10:34	9:24	8:14	8:09	8:57	8:25	8:49	8:51	8:33	8:06
Hall 5	10:41	10:17	9:08	9:05	9:45	9:52	10:27	10:51	9:38	9:15
Hall 6	9:48	9:49	8:53	8:52	8:53	9:09	9:50	10:08	10:11	9:25
Hall 7	10:15	10:53	10:43	10:30	10:45	10:58	11:14	12:59	12:38	19:24
Hall 8	9:06	8:58	8:14	8:54	8:10	8:14	8:33	8:57	7:56	7:26
Average	9:58	9:50	9:09	9:07	9:14	9:17	9:41	10:31	9:45	10:25
Fulltime							7:16	7:42	7:22	7:35

Attachment D – Fire Prevention

Fire prevention inspections:

Year	Group A Assembly	Group B Institutional	Group C Residential	Group D Office	Group E Retail	Group F Industrial	Group H Special	Totals
2004	873	84	255	762	716	1153	739	4582
2005	1056	74	290	815	659	1485	46	4425
2006	1505	57	208	708	525	1162	761	4926
2007	726	47	115	563	375	688	1320	3834
2008	244	41	109	397	310	459	1899	3459
2009	181	7	73	384	336	256	182	3059

Note: Group A Assembly includes assembly occupancies such as arenas, schools, churches, restaurants, pubs. Group B Institutional includes institutional occupancies such as hospitals, care homes. Group C Residential includes residential occupancies such as apartments, dormitories, townhouse complexes. Group D Office includes office occupancies such as banks, professional offices. Group E Retail includes retail occupancies such as malls, stores, supermarkets. Group F Industrial includes industrial occupancies such as woodworking, factories, repair premises and agricultural. Group H Special includes specialized inspections such as business license, sprinklers, planning and development reviews, fire safety plans, pre-fire plans and occupancy inspections.

Public Fire and Life Safety Education

Year	Preschool and Daycare	School Program	Youth Group Program	Teen Program	Adult and Business Program	Special Events	Total
2004	1792	9819	657	1120	297	28	13685
2005	1733	9876	914	1276	768	26	16983
2006	2118	13773	582	168	620	875	18136
2007	1466	8977	741	733	3555	17897	33499
2008	1312	7696	1081	655	2841	11385	24516
2009	2062	8826	444	156	441	13742	25671

Note: Preschool and Daycare Programs are 3-5 year olds who normally come to scheduled programs at the Fire hall. School Programs are at the elementary school level from Kindergarten to Grade 7 and include programs such as the Fire Safety House and the Firecracker Program. Youth Group Programs are targeted at Sparks, Brownies, Guides, Beavers, Cubs and Scouts. Teen Programs are provided for Secondary Schools, Cadets and visiting foreign students. Adult and Business Programs provide extinguisher training for industry and the public as well as services to Early Childhood Educators, institutional staff and a dormitory program at Trinity Western University. Special Events are community-based activities such as Canada Day at the Airport, Fire Safety Fair, Fort Langley May Day, Aldergrove Days and Christmas at Williams Park.



Est. 1873

RECREATION, CULTURE, and PARKS ADVISORY COMMITTEE

Wednesday, April 14, 2010, commencing at 7:08pm
Salmon River Committee Room
4th Floor, 20338 – 65 Avenue, Langley, BC

MINUTES

Present:

Chair, Suzan Guest

Remi Camparmo, Kirsten Charlesworth, Hattie Hogeterp, Janet Megahy, Dan Sheel,
Dave Stark, Judith Veresuk, Peter Wang, and Jonathan Wilkins

Municipal Representative:

Councillor Grant Ward

Staff:

Tab Buckner, Bev Herman, David Leavers, James Marvel, Al Neufeld, Kim Stepto, and
John Robertson

Guests:

Kelly Coglin, Horse Council of BC
Ruth Donald, Horse Council of BC
Lisa Laycock, Horse Council of BC

In Attendance:

Gloria Doubleday
Anne Patterson, Langley Times

APPROVAL OF AGENDA

1. Recreation, Culture, and Parks Advisory Committee – April 14, 2010

Moved by J. Wilkins,
Seconded by K. Charlesworth,
That the Recreation, Culture, and Parks Advisory Committee adopt the Agenda
of the April 14, 2010 meeting.

CARRIED

A. ADOPTION OF MINUTES

1. Recreation, Culture, and Parks Advisory Committee – March 10, 2010

Moved by H. Hogeterp,
Seconded by J. Veresuk,
That the Recreation, Culture, and Parks Advisory Committee adopt the Minutes
of the March 10, 2010 meeting.

CARRIED

B. DELEGATIONS

C. PRESENTATIONS

1. Horse Council of British Columbia

Lisa Laycock, Executive Director, provided a presentation regarding the role and function of the Horse Council of BC and the following comments were provided:

- The HCBC is a non-profit society that was established in 1980. Their role is to be a voice for and lobby on behalf of the equine interests of its members.
- Membership has nearly doubled during the past 10 years and stands at over 21,000 members.
- Langley has 42 sanctioned equestrian competitions, 105 days of recognized competition, plus over 50 days of local club horse shows.
- Some of the key messages the HCBC would like to provide are that:
 - Horses and the rural flavour add value to the community and opportunities for future growth that are compatible with the quality of life and environment desired in Langley Township.
 - Development of equestrian trails and promoting partnerships of multi-use trails is very important to the HCBC. A connection between Campbell Valley Park and Aldergrove Lake is a priority for riders.

D. REPORTS

1. Chairperson's Report

No report.

2. Director, Recreation, Culture, and Parks Report

D. Leavers reported the following:

Langley 2010 BC Summer Games Society update

- Sport Venue Tours Saturday, April 17 / Sunday, April 18 2010.
- Torchlighting Ceremony / Office Opening Wednesday, April 21, 2010 at 6:00 pm. (100 days to go!).
- Sport BC Community Sport Heroes Awards will be handed out.
- Over 700 volunteers have registered at:
[www. 2010bcsummergames.org](http://www.2010bcsummergames.org).

Langley Kidsport

- Langley Chapter being formed with \$3,000 contributions from Township and Sport BC.
- Public Information session was held Tuesday, April 6.
- Over 35 people signed up.

C. **PRESENTATIONS**

Derek Doubleday Arboretum Master Plan & Programming Report

- Presentation to Council on April 26 requesting Council's direction to proceed with report as its guide to future development.
- Note: Presentation deferred to May 3.

2010 Budget

- Council approved budget on Monday, April 12 that includes a 4.95 % property tax increase.

Provincial Gymnastics Championships

- Held at LEC on April 9-12.

Volunteer Appreciation Awards Evening – Thursday, April 1

- Thanks to selection Committee!
- The winners were:
 - Tim Lounsbury – Eric Flowerdew Volunteer of the Year
 - Peter Wang – Pete Swensson Outstanding Community Youth Award
 - Pam and Sam Omelaniac – Arnason Volunteers of the Year

Municipal Awareness Day – Thursday, April 22

- Thanks to those who will be volunteering.

Community Arbour Day – Sunday, April 25

E. **CORRESPONDENCE**

F. **2010 WORK PROGRAM**

1. **2010 BC Summer Games**

D. Leavers reported that on Saturday and Sunday, April 17 and 18, 2010, the BC Summer Games Board members will have a tour of the twenty-three sport venues. This will provide all key volunteers with a sense of how complex this event is.

The official Torch Lighting Ceremony will be held Wednesday, April 21, 2010:

- 5:30 – 6:30pm – Open House of the BC Summer Games Office at the LEC.
- 6:30 – 7:30pm – Torch Lighting Ceremony
- 7:30pm – Sport BC hosting Langley Community Sport Heroes Awards – 5 members of the Langley sport community will be recognized.
- 700 volunteers have registered to help with the Summer Games.

F. 2010 WORK PROGRAM

2. BCRPA Symposium

As Suzan Guest cannot attend this year, one member from the RCPAC will be asked to join staff at this event. David to follow up with Gail Aitken regarding his potential attendance. Janet Meaghy expressed interest in attending as well.

3. Willoughby Community Park Development – Next Phase

A. Neufeld provided the following update:

- Phase 3 of the Willoughby Community Park Development is starting this year with a parking lot extension to be developed by Mountain Senior Secondary.
- Phase 4 additional parking and new tennis courts are in the design phase.

4. Advertising in Municipal Parks and Facilities Policy

B. Herman asked to table this item as the draft policy is being reviewed by staff. She will bring the policy to the next meeting for Advisory Committee review and seek endorsement of the policy direction prior to taking it forward to Council.

5. Bedford Channel Jurisdiction

Discussion regarding jurisdictional issues on the Channel took place and the following points were made:

- Speeding on the water is a major issue. Signs tend to be ignored.
- There is no one to really enforce the “no speeding” law. It is not in the Township’s jurisdiction to hand out speeding tickets.
- Having a joint meeting with other users of the channel (Kwantlen First Nations, Metro Vancouver Parks) to discuss safety issues and possible solutions would be very beneficial.

G. ITEMS FROM PRIOR MEETINGS

1. Fees & Charges Bylaw

B. Herman provided the following update:

- Have asked for corporate direction regarding fees and the 2.5% price increase for services.

H. COUNCIL RESOLUTIONS AND REFERRALS

I. TASK FORCE / COMMUNITY LIAISON UPDATES

1. Langley Awards Task Force

D. Stark reiterated that the process was a successful one. D. Leavers reported that this was a great event and congratulated Peter Wang on his award and Janet Megahy on her nomination.

2. Langley Walk Task Force

J. Megahy reported that the planning of this event is almost complete and that advertising has been great. The Committee is working towards the Fiftieth Anniversary of the event in 3 years.

3. Arts and Culture

S. Guest reported that the Terms of Reference for the Township's Arts and Cultural Plan are being worked on and that B. Herman will bring forward to RCPAC at a future meeting.

4. Aquatics

K. Charlesworth reported that the Fraser Valley Diving Club is looking for dry land training space and that the scoreboard installed at WGCC is great.

5. Community Sports

H. Hogeterp reported that there are often issues raised about dogs in parks.

6. Sport Tourism

J. Wilkins reported that from April 17 to 25, 2010, Sport BC will be doing the "Power of Sport Tour" to help make school kids more aware of sports. The BC Gymnastics Championships were held last weekend at LEC and was a great event.

7. Parks and Trails

No report.

J. ITEMS FOR INFORMATION

K. OTHER BUSINESS

L. ROUND TABLE

1. J. Veresuk asked if KidSport has a used equipment exchange. D. Leavers noted that there is not usually an equipment exchange component to the individual chapters and KidSport BC discourages it. Supporting your local consignment stores who sell used equipment was encouraged.
2. P. Wang mentioned that he is honoured to be part of the RCPAC.
3. J. Megahy thanked the Township and SD#35 for installing a new washroom facility at McLeod Athletic Park adjacent to the Sportsbox.
4. J. Wilkins reported that the Canoe Club is starting a new program for the disabled. 150 participants are registered and the club is looking for sponsors to help purchase the special equipment needed. The School Dragon Boating program is going to start soon with a Regatta later in the year.
5. Suzan reported that she is organizing the Fraser Valley Invitational photography competition at Chief Sepass Theatre. She would like to note that a proper art facility in the Township for these types of events would be ideal and would like to encourage the TOL to have such a facility built.
6. H. Hogeterp reported that she attended a Senior's Meeting in Aldergrove and noted that seniors would like more benches placed around the community and a pool built.
7. K. Charlesworth reported that the BC Summer Games souvenirs have arrived and will be on sale next week. She also noted that as a result of the detours for the new pedestrian overpass being built on 200 Street, drivers are speeding on 201 Street in front of RC Garnett school.
8. D. Sheel reported that a Langley high school student is being projected as a first round draft pick in baseball.
9. R. Camparmo wanted to say thank you for the volunteer recognition dinner.

M. NEXT MEETING

Date: Wednesday, May 12, 2010
Location: Salmon River Committee Room
 4th Floor, 20338 – 65 Avenue
Time: 7:00pm

N. TERMINATE

Moved by D. Sheel,
Seconded by R. Camparmo,
That the meeting terminate at 9:00pm.

CARRIED

CERTIFIED CORRECT:

Chair, Suzan Guest