

REPORT TO COUNCIL



Date: November 17, 2011

To: City Manager

From: Land Use Management, Community Sustainability (JM)

Application: A11-0012 Owner: ProDev Limited Partnership

Address: 2755 McCurdy Road Applicant: NORR Architects Planners
(Bryce Tupper)

Subject: Subdivision in the Agricultural Land Reserve (ALR)

Existing OCP Designation: AGR - Resource Protection Area

Existing Zone: A1 - Agriculture 1

1.0 Recommendation

THAT Agricultural Land Reserve appeal A11-0012 for Lot 1, District Lots 124 and 415 ODYD, KAP 84653, located at 2755 McCurdy Road, Kelowna, B.C. for a subdivision within the Agricultural Land Reserve, pursuant to Section 21(2) of the Agricultural Land Commission Act, be supported by Municipal Council;

AND THAT Municipal Council forward the subject application to the Agricultural Land Commission.

2.0 Purpose

The applicant is seeking approval from the Agricultural Land Commission (ALC) to undertake a subdivision of land within the Agricultural Land Reserve (ALR). The proposed subdivision would divide the subject property along Mill Creek, resulting in one large parcel of approximately 25.3ha in area on the west side of Mill Creek and a second, smaller parcel of approximately 2.3ha in area on the creek's east side.

The parcel on the east side of the creek will remain under the current ownership for agricultural use. The ALR land on the west side of the creek is proposed to be dedicated to the City for the purposes of biodiversity conservation and potential future infrastructure development.

3.0 Land Use Management

Land Use Management staff strongly supports the protection of agricultural lands within the boundaries of the City of Kelowna. However in this instance, a substantial portion of the viable agricultural land on the subject property is proposed for significant multi-modal corridor development. These corridors were also designated in the preceding OCP, and have accordingly been acknowledged by the Agricultural Land Commission and by Council. Due to this eventual corridor development, in combination with challenging site topography and issues such as access

and site remediation, the agricultural viability of the property is substantially reduced. This conclusion is echoed in the report provided by the applicant.

This balance is further acknowledged by the City of Kelowna Agriculture Plan, which supports the non-agricultural use of those ALR portions of the subject property slated for future corridor development. The conclusion of the Agriculture Plan is reaffirmed in a 2002 decision by the Agricultural Land Commission (ALC) to approve exclusion of the subject lands south of the proposed extension of McCurdy Road.

An integral component of the proposal is the dedication to the City of all the highly valuable environmentally sensitive lands surrounding both Mill Creek and the riparian area. In a standard zoning process, these lands would be required to be protected. In this case, the applicant is willing to dedicate those lands for ownership to the City.

The applicant is further proposing to dedicate all the lands required for future corridor development on the parcel to the City. The City does already hold a Road Reserve over the subject property for future highway development; however, the proposed dedication would provide some financial benefit to the City. Additionally, the dedication will provide the City with flexibility in planning for future community needs, such as community parks and natural corridors.

Further, the proposal is seeking to protect the remaining viable agricultural land that is hooked across Mill Creek by severing that land from the main parcel. This opens the land up for independent agricultural use or for consolidation with adjacent agricultural parcels.

4.0 Proposal

4.1 Background

As part of the development of the adjacent Marshall Business Centre, the ALC previously granted its approval for the exclusion of those ALR lands west of Mill Creek, but lying south of the future extension of McCurdy Road (see Attachment), subject to the registration of a plan of subdivision for those lands.¹ A subdivision of these lands has not occurred, so the lands have remained in the ALR. Despite this, the resolution still stands.

The subject application is a component of a larger development proposal by the applicant, which includes applications for rezoning, Official Community Plan (OCP) amendment, and development permits. The proposed development consists of 314 units of multiple unit residential development, divided between apartment housing and townhome development. This development is proposed to take place on hillside lands on the westernmost side of the parcel outside of the ALR.

As a part of the development approval, the application proposes to dedicate the majority of the parcel to the City to fulfill multiple City objectives, including:

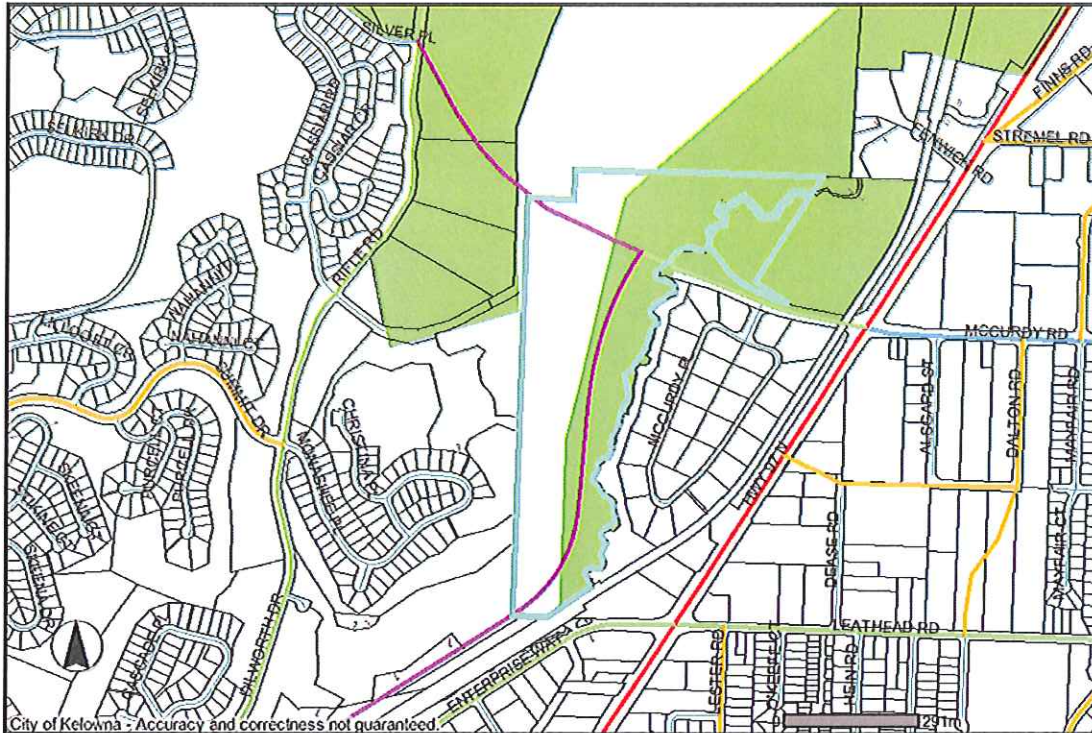
- Preservation of a large area of high value environmentally sensitive lands, including the riparian area of Mill Creek;
- Provision of land to facilitate the future corridor development and the extension of McCurdy Road; and
- Additional lands for agricultural protection, open space and natural area.

The current OCP's 20 Year Major Road Networks map indicates that Clement 3 (formerly known as the Central Okanagan Multi-Modal Corridor) is planned to extend through the parcel west of

¹ See Agricultural Land Commission resolution #241/2002.

Mill Creek (See Figure 1). Additionally, an east-west extension of McCurdy is planned to cross the parcel to connect eventually to Dilworth Drive. Presently, these plans only call for land acquisition. Actual corridor development is not slated to take place within the 20-year time horizon of the OCP. As part of the development of the adjacent Marshall Business Centre, the City obtained a blanket right-of-way over the subject parcel to secure future road development.

Figure 1 - 20-year Major Road Network



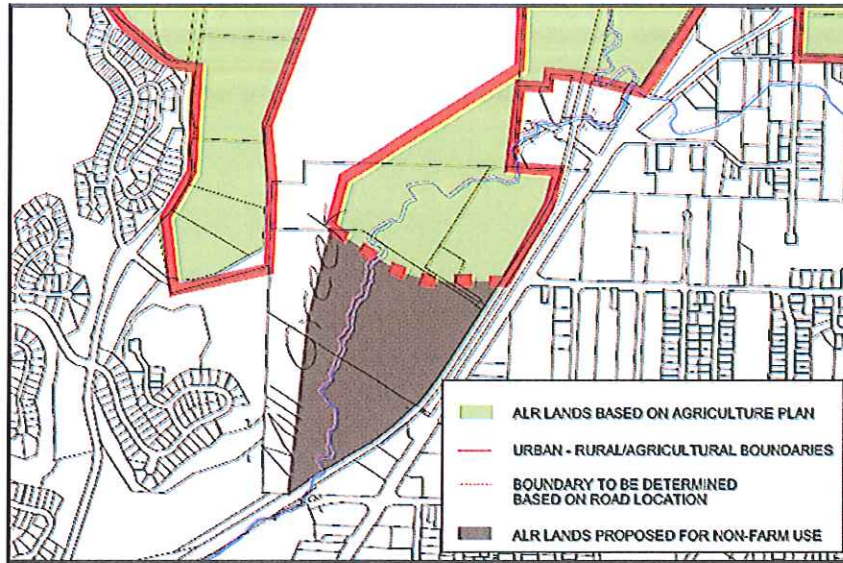
The eventual non-farm use of the majority of the ALR component of the subject property is acknowledged in the City of Kelowna Agriculture Plan. Those lands slated for corridor development are shown as non-farm use lands, and those low-lying lands not intended for corridor use are indicated as remaining in agricultural use (see Figure 2).

As part of their submission, the applicant has provided an assessment entitled “Agricultural Capacity and Feasibility of the Marshall West Site in Kelowna, B.C.”, dated April 4, 2011 and prepared by Andrea Gunner, P. Ag. The report makes the following conclusion:

“The existing Marshall West site has limited feasibility as an agricultural operation without a contiguous viable agricultural (livestock) operation, bordered as it is by residential use and industrial use. The lack of access to water rights, the costs of fencing, poor quality of the grazing due to slope and invasive plant species, the limited area suitable for crop production, the access issues (due to topography) for production equipment and the challenges of remediation on the portion within the Agricultural Land Reserve all combine to render this site economically unfeasible for an agricultural operation.”²

² Gunner, Andrea P. “Agricultural Capacity and Feasibility of the Marshall West Site in Kelowna, B.C.”. April 4, 2011: page 9.

Figure 2 - City of Kelowna Agriculture Plan Excerpt

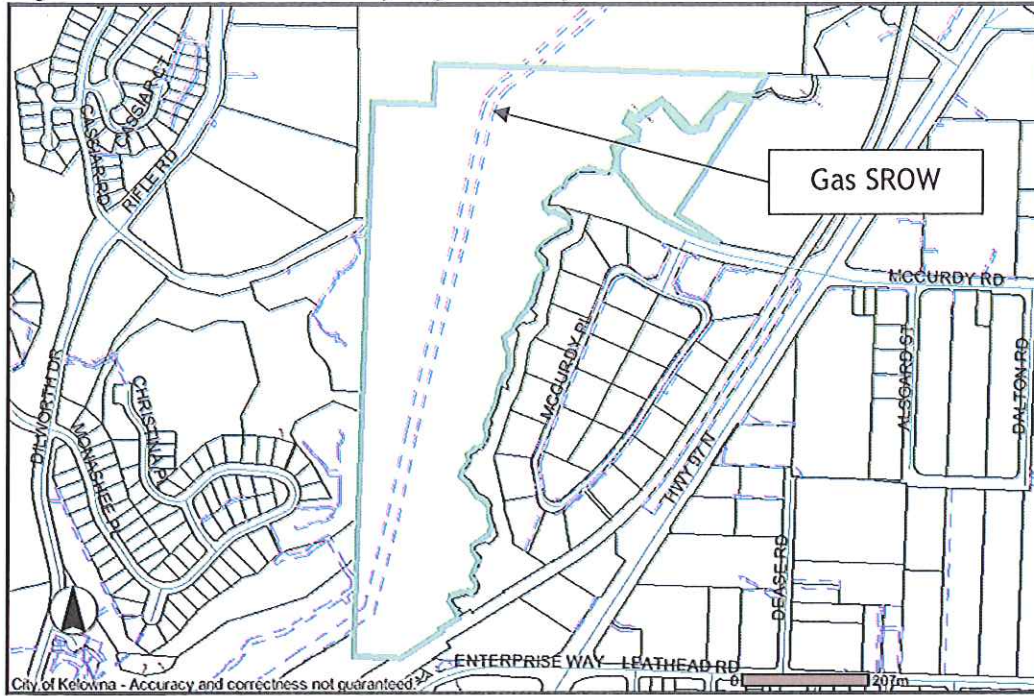


4.2 Site Context

The subject property is located west of Highway 97 between the Dilworth Mountain development and the westernmost extent of McCurdy Road. The lot is approximately 27.6ha in area and is hooked across Mill Creek, which runs roughly north-south through the parcel. The majority of the property lies on the west side of Mill Creek, with a relatively small remainder (approx. 2.3ha) on the east side. With the exception of several farm buildings that were part of the original Marshall Feedlot, the parcel remains undeveloped.

The property contains a mix of steep slopes and draws on the west and relatively flat lands to the east around Mill Creek. In addition to Mill Creek, the west side of parcel is further bisected by a Statutory Right of Way (SROW) for a gas transmission line, which runs roughly parallel to the creek. The majority of the parcel lying east of the SROW is situated within the Agricultural Land Reserve (ALR). The proposed development is located entirely outside of the ALR.

Figure 3 - Gas Line Statutory Right of Way

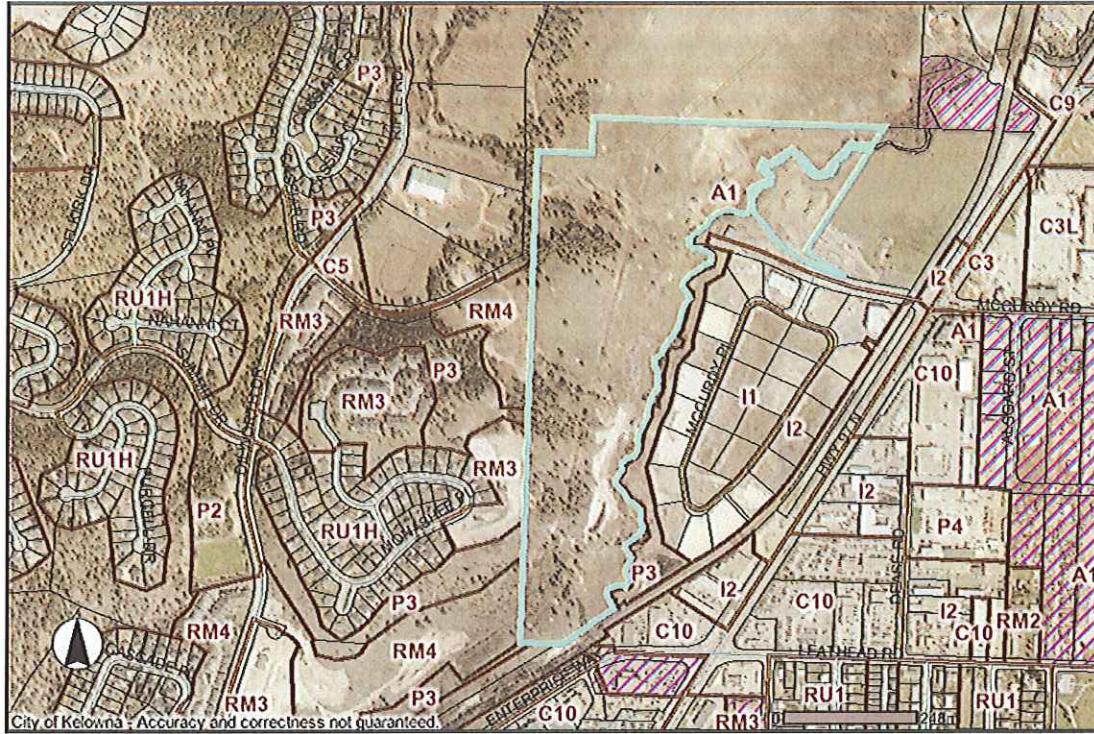


With the exception of the northeastern portion, the subject parcel is within the Permanent Growth Boundary. The proposal respects this boundary and no portion of the development is proposed to take place outside of the boundary.

Specifically, adjacent land uses are as follows:

Orientation	Zoning	Land Use
North	A1 - Agriculture 1	Agriculture, open space
East	P3 - Parks and Open Space, I1 - Business Industrial, I2 - General Industrial, A1 - Agriculture 1	Mill Creek Linear Park, Marshall Business Centre, agriculture
South	RM4 - Transitional Low Density Housing, C10 - Service Commercial	Dilworth Mountain development, general service commercial uses
West	A1 - Agriculture 1, RM3 - Low Density Multiple Housing, RM4 - Transitional Low Density Housing, P3 - Parks and Open Space	Agriculture, former mushroom farm, Dilworth Mountain development, public park space

Subject Property Map:



Zoning Analysis Table		
CRITERIA	A1 ZONE REQUIREMENTS	PROPOSAL
Existing Lot/Subdivision Regulations		
Lot Area	2.0ha (within ALR)	2.3ha
Lot Width	40.0m	exceeds
Lot Depth	n/a	n/a

5.0 Current Development Policies

5.1 Kelowna Official Community Plan (OCP)

Biodiversity.³ Maintain and improve biodiversity through the establishment of corridors (connectivity) and where appropriate, through the integration of wild species within agricultural landscapes.

Protect Agricultural Land.⁴ Retain the agricultural land base by supporting the ALR and by protecting agricultural lands from development, except as otherwise noted in the City of Kelowna Agricultural Plan. Ensure that the primary use of agricultural land is agriculture, regardless of parcel size.

Urban Uses.⁵ Direct urban uses to lands within the urban portion of the Permanent Growth Boundary, in the interest of reducing development and speculative pressure on agricultural lands.

³ City of Kelowna Official Community Plan, Policy No.5.35.1, Chapter 5

⁴ City of Kelowna Official Community Plan, Policy No.5.33.1, Chapter 5

⁵ City of Kelowna Official Community Plan, Policy No.5.33.3, Chapter 5

Subdivision.⁶ Maximize potential for the use of farmland by not allowing the subdivision of agricultural land into smaller parcels (with the exception of Homesite Severances approved by the ALC) except where significant positive benefits to agriculture can be demonstrated.

5.2 City of Kelowna Agriculture Plan

Within the City of Kelowna Agriculture Plan, it is acknowledged that much of the ALR land on the subject property is proposed for non-farm use. The plan suggests that lands to the north and east of the Urban - Rural/Agricultural Boundary (now called the Permanent Growth Boundary) remain as ALR.⁷

The Agriculture Plan goes on to state that "Lands identified ... as ALR lands proposed for non-farm use would not necessarily be excluded from the ALR. Some of these lands may be retained in the ALR but be supported for non-farm uses."⁸

6.0 Technical Comments

Staff and agency technical comments will be considered as part of the associated rezoning and Official Community Plan amendment applications (Z11-0069, OCP11-0011).

7.0 Application Chronology

Date of Application Received: August 30, 2011

Agricultural Advisory Committee September 8, 2011

The above noted application was reviewed by the Agricultural Advisory Committee at the meeting on September 8, 2011 and the following recommendation was passed:

THAT the Agricultural Advisory Committee support Agricultural Land Reserve Application No. A11-0012 for 2755 McCurdy Road, by NORR Architects Planners, to undertake a subdivision in the Agricultural Land Reserve.

Report prepared by:



James Moore, Environmental Land Use Planner

Reviewed by:



Todd Cashin Manager, Manager, Environment & Land Use

Approved for Inclusion:

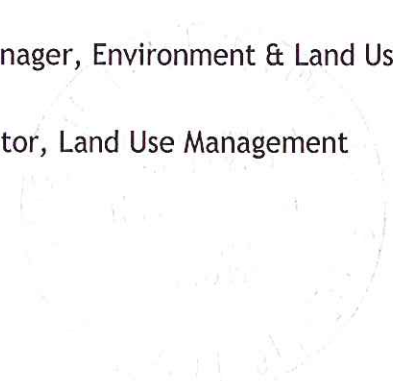


Shelley Gambacort, Director, Land Use Management

⁶ City of Kelowna Official Community Plan, Policy No.5.33.8, Chapter 5

⁷ City of Kelowna Agriculture Plan, 1999, Map 14.

⁸ City of Kelowna Agriculture Plan, 1999, page 121.



Attachments:

Subject Property Map

ALR Map

ALR Application Form and Rationale

Marshall West Development ALR Dedication

Soil Classification Map

Subject Property Soil Classification Description

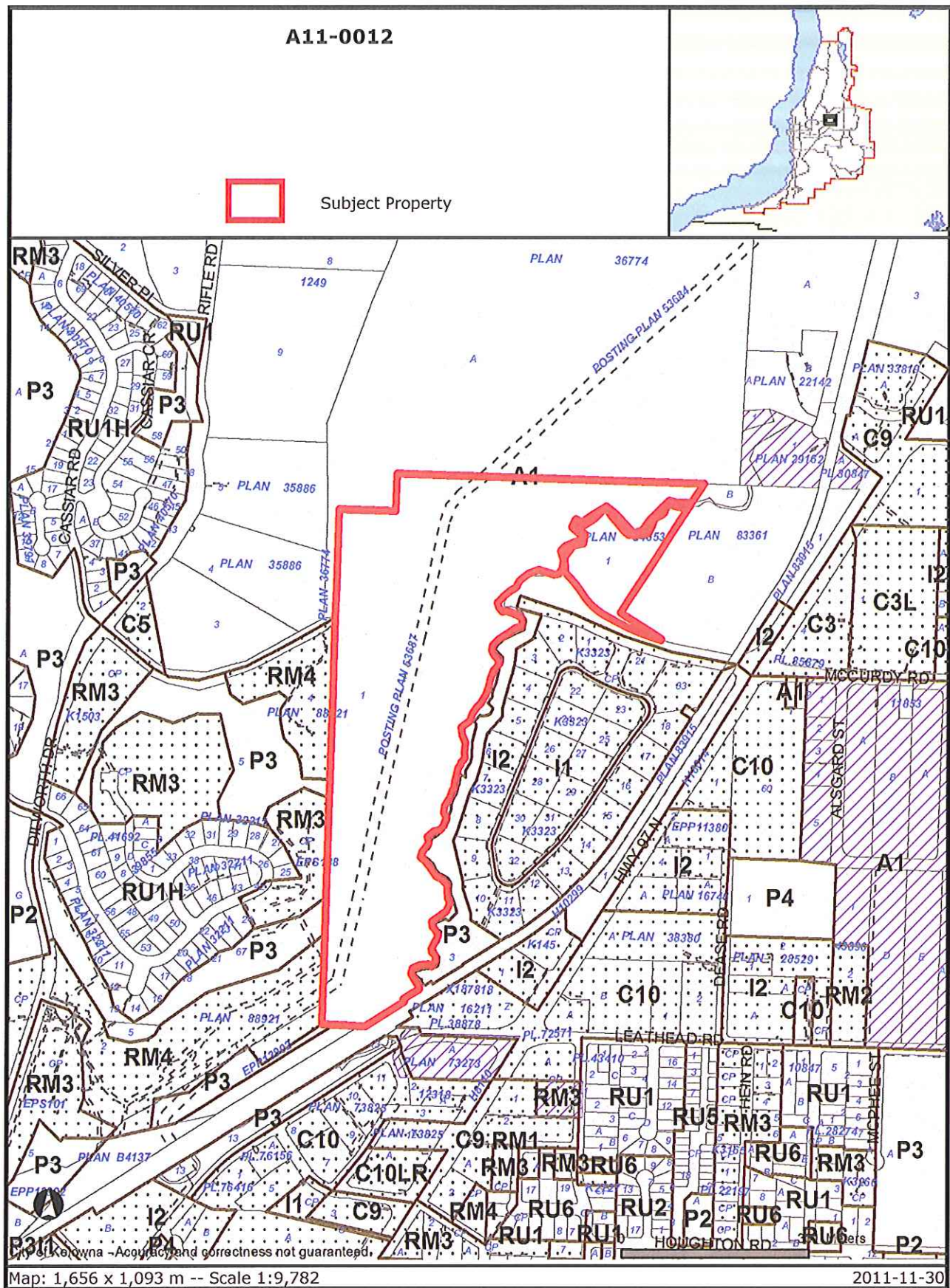
Land Capability Map

Subject Property Land Capability Description

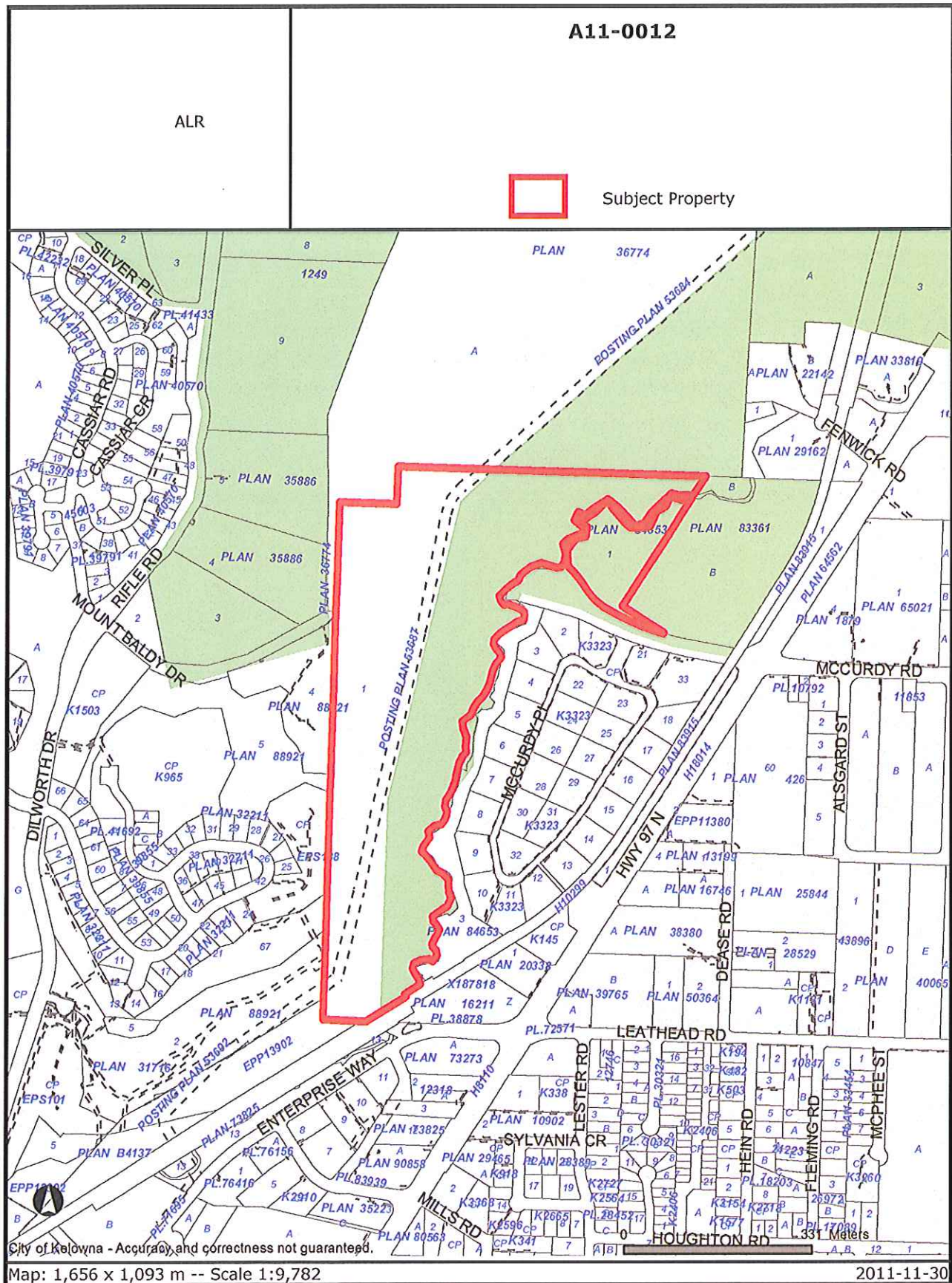
Agricultural Capacity and Feasibility Assessment

ALC Decision Letter, dated June 26, 2002

Conceptual Site Plan of Associated Development



Certain layers such as lots, zoning and dp areas are updated bi-weekly. This map is for general information only. The City of Kelowna does not guarantee its accuracy. All information should be verified.



Certain layers such as lots, zoning and dp areas are updated bi-weekly. This map is for general information only.
 The City of Kelowna does not guarantee its accuracy. All information should be verified.

James Moore

From: Bryce Tupper [Bryce.Tupper@norr.com]
Sent: Wednesday, August 31, 2011 12:18 PM
To: James Moore
Subject: Marshall
Attachments: NCCA10009300_2011-08-31_Proposed ALR Dedication.pdf;
image893c56.jpg@cecada98.403249fe; imagea29509.gif@f737d182.d31e4e09

James - I was having issue with the application form. As a result, the new text is below. The new plan is attached. Let me know if this works.

As indicated on the attached map, the portion of the subject site to the east of the Terasen Gas Line ROW is located in the ALR. Consistent with a June 26, 2002 agreement with the Land Reserve Commission (Application #G-25680), all area of land south of McCurdy Road will be excluded from the ALR when subdivision of the lands occur. The concurrent rezoning and OCP application submitted to the City of Kelowna for the entire site proposes to rezoning a portion of the non-ALR land at the west of the site to residential use (see map). At time of subdivision to create the new residential parcels, it is expected that all lands south of McCurdy will be release from the ALR. It is also proposed that the remaining ALR lands north of McCurdy be subdivided with Mill Creek as the dividing property line. The subdivided parcel to the west of Mill Creek, east of the Terasen Gas line and north of McCurdy Rd will then be dedicated to the City of Kelowna. The parcel to the east of Mill Creek will remain under current ownership.

It should be noted, that the 4.8 ha of land proposed for dedication to the City of Kelowna is completely unusable due either to extremely steep greater than 30 percent, sensitive riparian lands associated with the creek or the future alignment of a major road expansion in the Central Okanagan Multi-modal Corridor. Furthermore, with no physical connection to the adjacent ALR lands to the east because of Mill Creek, the subdivision and subsequent dedication of these lands to the City is deemed logical and reasonable.

Bryce Tupper, M.Eng., P.Eng., LEED® AP

Manager, Planning Services
NORR Architects Planners Inc.

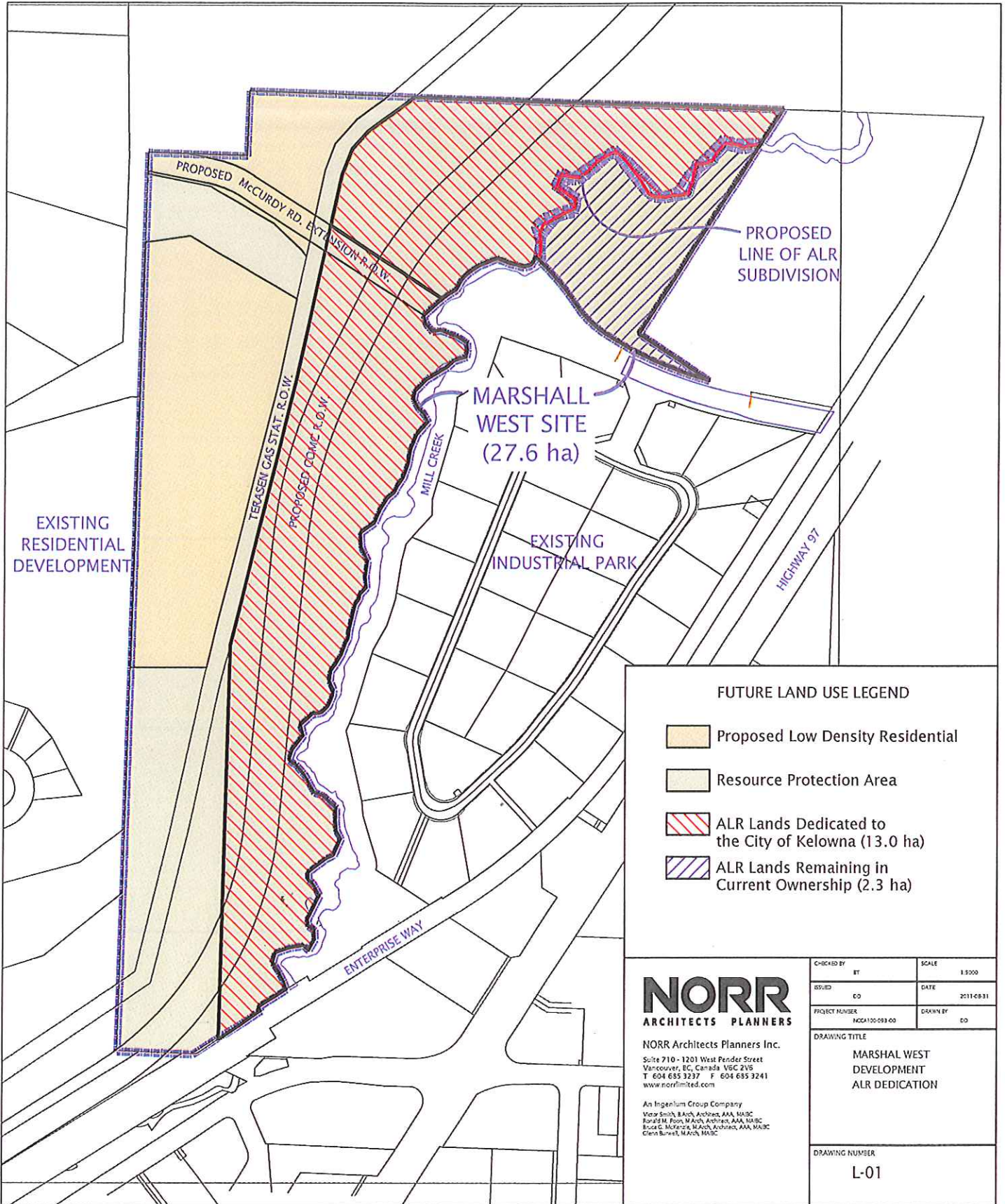
Bryce.Tupper@norr.com | T 604 673 6096 | F 604 685 3241 | norr.com







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FUTURE LAND USE LEGEND

-  Proposed Low Density Residential
-  Resource Protection Area
-  ALR Lands Dedicated to the City of Kelowna (13.0 ha)
-  ALR Lands Remaining in Current Ownership (2.3 ha)

NORR
ARCHITECTS PLANNERS

NORR Architects Planners Inc.
Suite 710 - 1201 West Pender Street
Vancouver, BC, Canada V6C 2V5
T 604 655 3237 F 604 655 3241
www.norrlimited.com

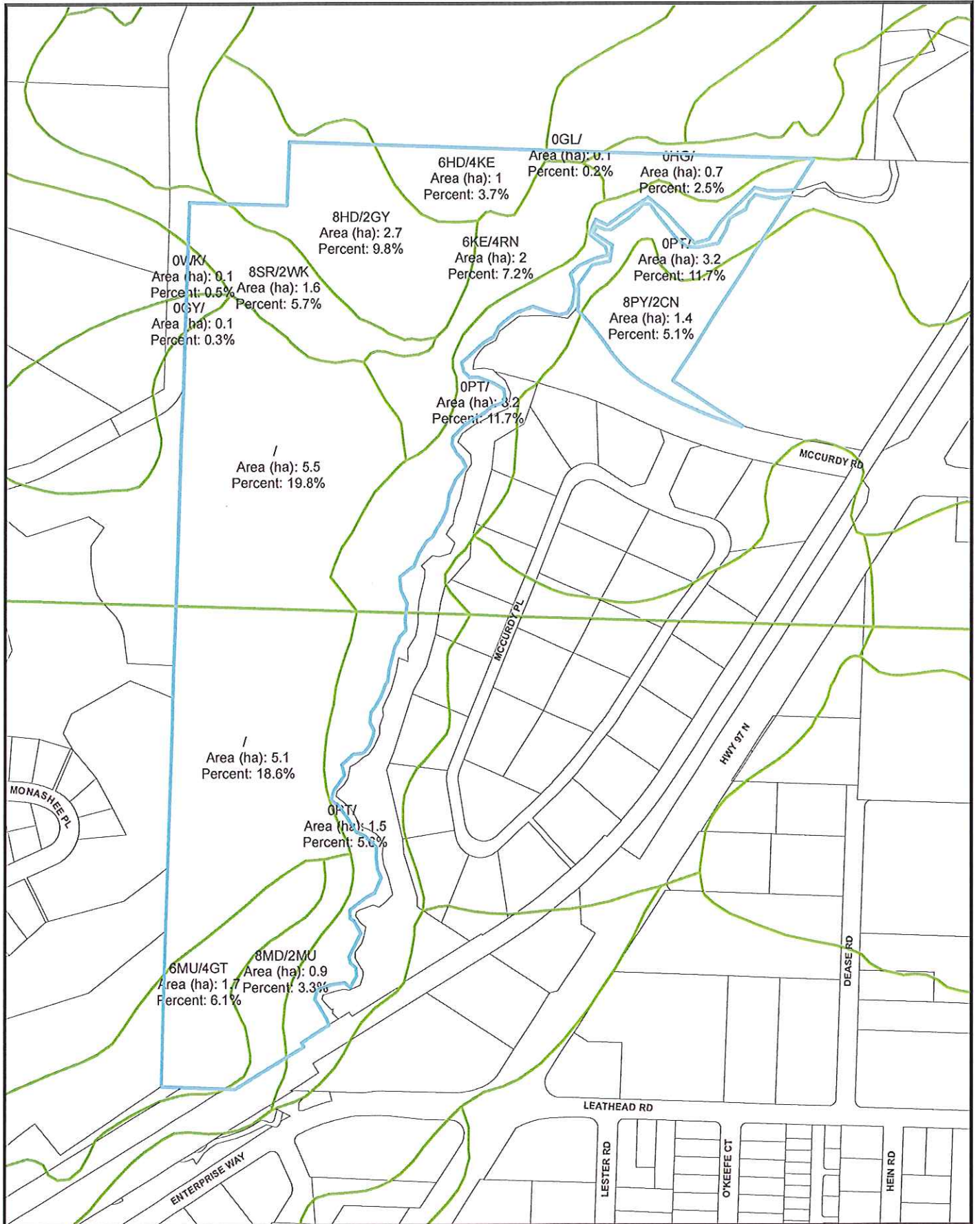
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Vivian Smith, B.Arch, Architect, AIA, MAIBC
Ronald M. Poon, M.Arch, Architect, AIA, MAIBC
Bruce E. McKenzie, M.Arch, Architect, AIA, MAIBC
Clara Burwell, M.Arch, MAIBC

CHECKED BY	BT	SCALE	1:5000
ISSUED	CO	DATE	2011-08-31
PROJECT NUMBER	NOCA100-093-00	DRAWN BY	CO

DRAWING TITLE
**MARSHAL WEST
DEVELOPMENT
ALR DEDICATION**

DRAWING NUMBER
L-01

Land Capability = Brown/ Soil Class = Green



1:5,000

Soil Classification

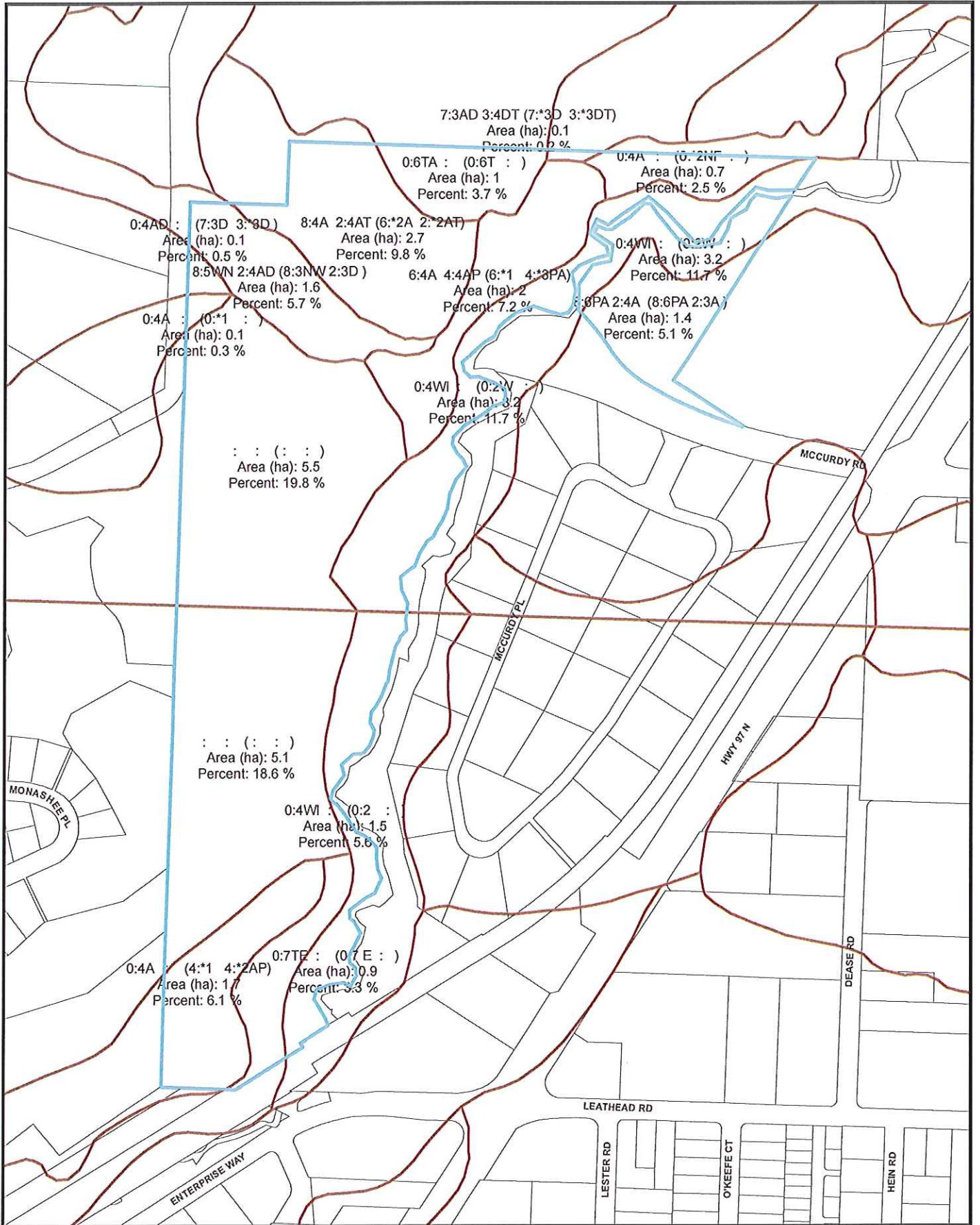
The soil classification for the subject property is broken into sections with soil types as defined below.

Portion of Site / %	Soil Type	Description
5.5 ha / 19.8% unknown	unknown	unknown
5.1 ha / 18.6 % unknown	unknown	unknown
3.2 ha / 11.7 % 100%	PT - Priest Creek	<u>Land</u> : nearly level and very gently sloping fluvial fan deposits. <u>Texture</u> : 10 to 100cm of silt loam or loam over gravelly sandy loam or gravelly silt loam. <u>Drainage</u> : dominantly imperfect, ranging to moderately well; fluctuating ground water table, subject to flooding. <u>Classification</u> : Gleyed Humic Regosol: calcareous phase.
3.2 ha / 11.7 % 100%	PT - Priest Creek	<u>Land</u> : nearly level and very gently sloping fluvial fan deposits. <u>Texture</u> : 10 to 100cm of silt loam or loam over gravelly sandy loam or gravelly silt loam. <u>Drainage</u> : dominantly imperfect, ranging to moderately well; fluctuating ground water table, subject to flooding. <u>Classification</u> : Gleyed Humic Regosol: calcareous phase.
2.7 ha / 9.8% 80%	HD - Harrland	<u>Land</u> : Eolian veneer over gently to very steeply sloping glacial till. <u>Texture</u> : 10 to 30 cm of sandy loam or loamy sand over gravelly sandy loam or gravelly loamy sand. <u>Drainage</u> : well. <u>Classification</u> : eluviated eutric brunisol.
20%	GY - Gellatly	<u>Land</u> : thin fluvial veneer over very gently to strongly sloping stratified glaciolacustrine sediments. <u>Texture</u> : 10 to 50 cm of loam or sandy loam over silt loam or silty clay loam. <u>Drainage</u> : well. <u>Classification</u> : Eluviated Eutric Brunisol.
2 ha / 7.2% 60%	KE - Kendall	<u>Land</u> : nearly level and very gently sloping organic deposits over fluvial deposits. <u>Texture</u> : 40 to 160cm of partially decomposed (mesic) organic material over loamy sand or sand. <u>Drainage</u> : very poor, fluctuating ground water-table, subject to flooding. <u>Classification</u> : Teric Mesic Humisol.
40%	RN - Ratnip	<u>Land</u> : nearly level to very steeply sloping fluvial fan deposits. <u>Texture</u> : 10 to 50 cm of gravelly sandy loam over very gravelly loamy sand. <u>Drainage</u> : well to rapid. <u>Classification</u> : Orhtic Dark Brown.

<p>1.7 ha / 6.1% 60%</p> <p>40%</p>	<p>MU - Munson</p> <p>GT - Greata</p>	<p><u>Land</u>: gently to extremely sloping, stratified glaciolacustrine sediments. <u>Texture</u>: 100cm or more of silt loam containing thin bands of silty clay loam and loamy sand. <u>Drainage</u>: well to moderately well. <u>Classification</u>: Rego Brown: saline phase.</p> <p><u>Land</u>: fluvioglacial veneer over gently to extremely sloping, stratified glaciolacustrine sediments. <u>Texture</u>: 30 to 100 cm of gravelly sandy loam or gravelly loam over silt loam or silty clay loam. <u>Drainage</u>: well. <u>Classification</u>: Eluviated Dark Brown.</p>
<p>1.6 ha / 5.7% 80%</p> <p>20%</p>	<p>SR - Summerland</p> <p>WK - Westbank</p>	<p><u>Land</u>: nearly to strongly sloping fluvial veneer over glaciolacustrine sediments. <u>Texture</u>: 10 to 100cm of silty clay loam grading to clay loam. <u>Drainage</u>: dominantly poor, ranging to imperfect; fluctuating groundwater table or seepage, subject to flooding. <u>Classification</u>: Orthic Humic Gleysol: calcareous and saline phases.</p> <p><u>Land</u>: nearly level to strongly sloping stratified glaciolacustrine sediments. <u>Texture</u>: 100 cm or more of clay, clay loam or silty clay. <u>Drainage</u>: moderately well. <u>Classification</u>: Orthic Gray Luvisol.</p>
<p>1.5 ha / 5.6 % 100%</p>	<p>PT - Priest Creek</p>	<p><u>Land</u>: nearly level and very gently sloping fluvial fan deposits. <u>Texture</u>: 10 to 100cm of silt loam or loam over gravelly sandy loam or gravelly silt loam. <u>Drainage</u>: dominantly imperfect, ranging to moderately well; fluctuating ground water table, subject to flooding. <u>Classification</u>: Gleyed Humic Regosol: calcareous phase.</p>

1.4 ha / 5.7% 80%	PY - Pandozy	<p><u>Land</u>: nearly level and very gently sloping fluvial fan deposits.</p> <p><u>Texture</u>: 100cm or more of very gravelly loamy sand or very gravelly sand.</p> <p><u>Drainage</u>: dominantly imperfect, ranging to moderately well; fluctuating ground water table.</p> <p><u>Classification</u>: Gleyed Regosol.</p>
20%	CN - Cameron Lake	<p><u>Land</u>: nearly level and very gently sloping fluvial floodplain deposits.</p> <p><u>Texture</u>: 10 to 100 cm or more of sandy loam or loamy sand over gravelly sand.</p> <p><u>Drainage</u>: dominantly imperfect, ranging to moderately well; fluctuating water table.</p> <p><u>Classification</u>: Gleyed Regosol.</p>
1ha / 3.7% 60%	HD - Harrland	<p><u>Land</u>: Eolian veneer over gently to very steeply sloping glacial till.</p> <p><u>Texture</u>: 10 to 30 cm of sandy loam or loamy sand over gravelly sandy loam or gravelly loamy sand.</p> <p><u>Drainage</u>: well.</p> <p><u>Classification</u>: eluviated eutric brunisol.</p>
40%	KE - Kendall	<p><u>Land</u>: nearly level and very gently sloping organic deposits over fluvial deposits.</p> <p><u>Texture</u>: 40 to 160cm of partially decomposed (mesic) organic material over loamy sand or sand.</p> <p><u>Drainage</u>: very poor, fluctuating ground water-table, subject to flooding.</p> <p><u>Classification</u>: Teric Mesic Humisol.</p>
0.9 ha / 3.3% 80%	MD - Maynard	<p><u>Land</u>: gently to extremely sloping, stratified glaciolacustrine sediments.</p> <p><u>Texture</u>: 100cm or more of silt loam containing thin bands of silty clay loam and very fine sandy loam.</p> <p><u>Drainage</u>: well to moderately well.</p> <p><u>Classification</u>: Orthic Regosol: calcareous and saline phases.</p>
20%	MU - Munson	<p><u>Land</u>: gently to extremely sloping, stratified glaciolacustrine sediments.</p> <p><u>Texture</u>: 100cm or more of silt loam containing thin bands of silty clay loam and loamy sand.</p> <p><u>Drainage</u>: well to moderately well.</p> <p><u>Classification</u>: Rego Brown: saline phase.</p>
0.7 ha / 2.5 % 100%	HG - Higgin	<p><u>Land</u>: very gently to moderatly sloping fluvial fan deposits.</p> <p><u>Texture</u>: 100 cm or more of fine sandy loam, loam or silt loam.</p> <p><u>Drainage</u>: well to moderately well.</p> <p><u>Classification</u>: Orthic Regosol: calcareous phase.</p>
Remnant portions totalling 0.3 ha / ~1%		

Land Capability = Brown/ Soil Class = Green



1:5,000

BCLI Land Capability

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
5.5 ha / 19.8% unknown	unknown	unknown
5.1 ha / 18.6 % unknown	unknown	unknown
3.2 ha / 11.7 % 100%	<p>100% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p> <p>Soils are limited by overflow from streams, lakes, or marine tides which causes crop damage or restricts agricultural use.</p>	<p>100% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
3.2 ha / 11.7 % 100%	<p>100% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p> <p>Soils are limited by overflow from streams, lakes, or marine tides which causes crop damage or restricts agricultural use.</p>	<p>100% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p>
2.7 ha / 9.8%	<p>80% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>20% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting</p>	<p>60% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>20% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
	<p>and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>Soils are limited by steepness or pattern of slopes which hinders the use of farm machinery, decreases uniformity of growth and maturity or crops, and/or increases the potential for water erosion.</p>	<p>insufficient precipitation.</p> <p>Soils are limited by steepness or pattern of slopes which hinders the use of farm machinery, decreases uniformity of growth and maturity or crops, and/or increases the potential for water erosion.</p>
2 ha / 7.2%	<p>60% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>40% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>Soils are limited by the presence of coarse fragments which significantly hinder tillage, planting and/or harvesting.</p>	<p>60% Class 1. Land in this Class has no or only very slight limitations that restrict its use for the production of common agricultural crops. Land in Class 1 is level or nearly level. The soils are deep, well to imperfectly drained under natural conditions, or have good artificial water table control, and hold moisture well. They can be managed and cropped without difficulty. Productivity is easily maintained for a wide range of field crops.</p> <p>40% Class 3. Land in this Class has limitations that require moderately intensive management practices or moderately restrict the range of crops, or both. The limitations are more severe than for Class 2 land and management practices are more difficult to apply and maintain. The limitations may restrict the choice of suitable crops or affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Soils are limited by the presence of coarse fragments which significantly hinder tillage, planting and/or harvesting.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
<p>1.7 ha / 6.1%</p>	<p>100% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p>	<p>40% Class 1. Land in this Class has no or only very slight limitations that restrict its use for the production of common agricultural crops. Land in Class 1 is level or nearly level. The soils are deep, well to imperfectly drained under natural conditions, or have good artificial water table control, and hold moisture well. They can be managed and cropped without difficulty. Productivity is easily maintained for a wide range of field crops.</p> <p>40% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>Soils are limited by the presence of coarse fragments which significantly hinder tillage, planting and/or harvesting.</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
1.6 ha / 5.7%	<p>80% Class 5. Land in this Class has limitations which restricts its capability to producing perennial forage crops or other specially adapted crops. Land in Class 5 is generally limited to the production of perennial forage crops or other specially adapted crops. Productivity of these suited crops may be high. Class 5 lands can be cultivated and some may be used for cultivated field crops provided unusually intensive management is employed and/or the crop is particularly adapted to the conditions peculiar to these lands. Cultivated filed crops may be grown on some Class 5 land where adverse climate is the main limitation, but crop failure can be expected under average conditions.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p> <p>Soils are adversely affected by soluble salts which reduce crop growth or restrict the range of crops.</p> <p>20% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>Soils are difficult to till, require special management for seedbed preparation, pose trafficability problems, have insufficient aeration, absorb and distribute water slowly, and/or have rooting zone depth restricted by conditions other than high water table, bedrock, or permafrost.</p>	<p>80% Class 3. Land in this Class has limitations that require moderately intensive management practices or moderately restrict the range of crops, or both. The limitations are more severe than for Class 2 land and management practices are more difficult to apply and maintain. The limitations may restrict the choice of suitable crops or affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Soils are adversely affected by soluble salts which reduce crop growth or restrict the range of crops.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p> <p>20% Class 3. Land in this Class has limitations that require moderately intensive management practices or moderately restrict the range of crops, or both. The limitations are more severe than for Class 2 land and management practices are more difficult to apply and maintain. The limitations may restrict the choice of suitable crops or affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Soils are difficult to till, require special management for seedbed preparation, pose trafficability problems, have insufficient aeration, absorb and distribute water slowly, and/or have rooting zone depth restricted by conditions other than high water table, bedrock, or permafrost.</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
1.5 ha / 5.6 % 100%	<p>100% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Soils are limited by excess water, other than from flooding, which limits agricultural use. The excess water may be due to poor drainage, high water tables, seepage, and/or runoff from surrounding areas.</p> <p>Soils are limited by overflow from streams, lakes, or marine tides which causes crop damage or restricts agricultural use.</p>	<p>100% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p>
1.4 ha / 5.7%	<p>80% Class 6. Land in this Class is non-arable but capable of producing native and/or uncultivated perennial forage crops. Land in Class 6 provides sustained natural grazing for domestic livestock and is not arable in its present condition. Land is placed in this class because of severe climate, or the terrain is unsuitable for cultivation or use of farm machinery, or the soils do not respond to intensive improvement practices. Some unimproved Class 6 lands can be improved by draining, diking and/or irrigation.</p> <p>Soils are limited by the presence of coarse fragments which significantly hinder tillage, planting and/or harvesting.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>20% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such</p>	<p>80% Class 6. Land in this Class is non-arable but capable of producing native and/or uncultivated perennial forage crops. Land in Class 6 provides sustained natural grazing for domestic livestock and is not arable in its present condition. Land is placed in this class because of severe climate, or the terrain is unsuitable for cultivation or use of farm machinery, or the soils do not respond to intensive improvement practices. Some unimproved Class 6 lands can be improved by draining, diking and/or irrigation.</p> <p>Soils are limited by the presence of coarse fragments which significantly hinder tillage, planting and/or harvesting.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p> <p>20% Class 3. Land in this Class has limitations that require moderately intensive management practices or moderately restrict the range of crops, or both. The limitations are more severe than for Class 2 land and management practices are more difficult to apply and maintain. The limitations may restrict the choice of suitable</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
	<p>that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p>	<p>crops or affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p>
1ha / 3.7%	<p>100% Class 6. Land in this Class is non-arable but capable of producing native and/or uncultivated perennial forage crops. Land in Class 6 provides sustained natural grazing for domestic livestock and is not arable in its present condition. Land is placed in this class because of severe climate, or the terrain is unsuitable for cultivation or use of farm machinery, or the soils do not respond to intensive improvement practices. Some unimproved Class 6 lands can be improved by draining, diking and/or irrigation.</p> <p>Soils are limited by steepness or pattern of slopes which hinders the use of farm machinery, decreases uniformity of growth and maturity or crops, and/or increases the potential for water erosion.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p>	<p>100% Class 6. Land in this Class is non-arable but capable of producing native and/or uncultivated perennial forage crops. Land in Class 6 provides sustained natural grazing for domestic livestock and is not arable in its present condition. Land is placed in this class because of severe climate, or the terrain is unsuitable for cultivation or use of farm machinery, or the soils do not respond to intensive improvement practices. Some unimproved Class 6 lands can be improved by draining, diking and/or irrigation.</p> <p>Soils are limited by steepness or pattern of slopes which hinders the use of farm machinery, decreases uniformity of growth and maturity or crops, and/or increases the potential for water erosion.</p>
0.9 ha / 3.3%	<p>100% Class 7. Land in this Class has no capability for arable agriculture or sustained natural grazing. All classified areas not included in Classes 1 to 6 inclusive are placed in this class. Class 7 land may have limitations equivalent to Class 6 land but does not provide natural sustained grazing for domestic livestock due to unsuited natural vegetation. Also included are rock land, other non-soil areas, and small water bodies not shown on the maps. Some unimproved Class 7 land can be improved by draining, diking, irrigation, and/or levelling.</p> <p>Soils are limited by steepness or pattern of slopes which hinders the use of farm machinery, decreases uniformity of growth and maturity or crops, and/or increases the potential for water erosion.</p>	<p>100% Class 7. Land in this Class has no capability for arable agriculture or sustained natural grazing. All classified areas not included in Classes 1 to 6 inclusive are placed in this class. Class 7 land may have limitations equivalent to Class 6 land but does not provide natural sustained grazing for domestic livestock due to unsuited natural vegetation. Also included are rock land, other non-soil areas, and small water bodies not shown on the maps. Some unimproved Class 7 land can be improved by draining, diking, irrigation, and/or levelling.</p> <p>Past damage from erosion limits agricultural use due to productivity loss and/or hampers cultivation (e.g.. Gullies).</p>

Portion of Site	Land Capability Rating, Unimproved	Land Capability Rating, With Improvements
	Past damage from erosion limits agricultural use due to productivity loss and/or hampers cultivation (e.g.. Gullies).	
0.7 ha / 2.5 %	<p>100% Class 4. Land in this Class has limitations that require special management practices or severely restrict the range of crops, or both. Land in Class 4 has limitations which make it suitable for only a few crops, or the yield for a wide range of crops is low, or the risk of crop failure is high, or soil conditions are such that special development and management practices are required. The limitations may seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, and methods of soil conservation.</p> <p>Crops are adversely affected by droughtiness caused low soil water holding capacity or insufficient precipitation.</p>	<p>100% Class 2. Land in this Class has minor limitations that require good ongoing management practices or slightly restrict the range of crops, or both. Land in Class 2 has limitations which constitute a continuous minor management problem or may cause lower crop yields compared to Class 1 land but which do not pose a threat of crop loss under good management. The soils in Class 2 are deep, hold moisture well and can be managed and cropped with little difficulty.</p> <p>Soils are adversely affected by soluble salts which reduce crop growth or restrict the range of crops.</p> <p>Soils are limited by lack of available nutrients, low cation exchange capacity or nutrient holding ability, high acidity or alkalinity, high levels of carbonates, presence of toxic elements or compounds, or high fixation of plant nutrients.</p>
Remnant portions totalling 0.3 ha / ~1%		

Agricultural Capacity and Feasibility of the Marshall West Site in Kelowna, B.C.



April 4, 2011

Andrea Gunner, P.Ag.
4218 Wyatt Road
Armstrong, B.C. V0E 1B4
Phone 250-546-2712
Cell 250-308-6146
gunnera@telus.net

Disclaimer

This report relies on a April 1, 2011 site visit and the information contained in the March 24, 2011 Marshall West OCP Amendment and Re-zoning Presentation by Bryce Tupper, P.Eng., of NORR Architects Planners Inc.

The author is an agricultural economist based in the Okanagan. The author is neither a range agrologist (therefore not qualified to assess carrying capacity of range lands) nor a soils specialist (therefore not qualified to assess the technical structure or stability of the site) nor an ecologist (therefore not qualified to assess the environmental impacts from cattle next to the creek). The author has relied on qualified range agrologists for interpretation on carrying capacity of grazing lands and appropriate fencing setbacks for Mill Creek.

Introduction

This report outlines the economic viability for an agricultural operation on 68.2 acres of the Marshall West Site including the feasibility of grain or forage production and livestock grazing as well as other opportunities that the site might present.

General Site Context

A site visit on April 1, 2011 confirmed the topographic information contained within the March 24, 2011 Marshall West OCP Amendment and Re-zoning Presentation (page 20, Site Constraints).¹

The site is an east facing, sloped grassland with three small benches (less than 5 acres in total), a ravine and a floodplain on the eastern edge, bordering Mill Creek. This site was part of the former Marshall feedlot and evidence exists of its use as grazing land in the past. Rocky outcrops in the south have been quarried. Grassland slopes continue to the north.

The plant communities are dominated by typical Okanagan grassland species:

bunchgrass (*Agropyron spicatum*),
saxifrages, yarrow (*Achillea millefolium*)
and artemesia (*Artemesia frigida*),



Artemesia frigida



Bunchgrasses

backed by Ponderosa pine (*Pinus ponderosa*), with buckbrush (*Ceanothus* spp.) and native wild rose (*Rosa* spp.) on the slopes of the draws.

¹ Bryce Tupper, P.Eng., NORR Architects Planners Inc., *Marshall West Property, OCP Amendment and Rezoning*, March 24, 2011, pages 20-22

The ravine and Mill Creek both contain significant populations of sedges and rushes as well as waterfowl, red-winged blackbird and other wetland species.



A strong population of perennial sulphur cinquefoil (*Potentilla recta*)



exists on the east facing slopes.

The site is bordered to the south, south-west and west by recent and active current residential construction; it is bordered by grassland to the north-west and north. As noted in the March 24, 2011 Marshall West OCP Amendment and Re-zoning Presentation, the site also contains a Terasen Gas Right of Way.



Agricultural Context

In an agricultural context, this site appears to have some limited potential for livestock grazing. However, it has several limitations. There is no contiguous livestock operation that would benefit from the available grazing; there is a lack of



effective fencing; and access to Mill Creek for livestock watering would necessitate permission from downstream users, the B.C. Ministry of Environment and B.C. Ministry of Forests together with the associated costs and resources for facilitating access. According to Range Agrologist, Anne Skinner, P.Ag., with the B.C. Ministry of Forests,² if Mill Creek does not involve domestic water, other tools such as off stream water or grazing it as a riparian pasture for short duration in and out are the preferred methods. She pointed out that a fence right adjacent to Mill Creek or the wetland adjacent to it would get a lot of pressure from cattle and be impacted by erosion. The preferred fencing option would be well back from the creek, resulting in a loss of forage.

The strong population of sulphur cinquefoil (an invasive species) is an indication of poor soil nutrition. It is a strong competitor with native and domestic grass species although susceptible to chemical control. The slopes on this site make the cultural method of discing and reseeding to crested wheatgrass impractical and substantially increase the cost of chemical control.

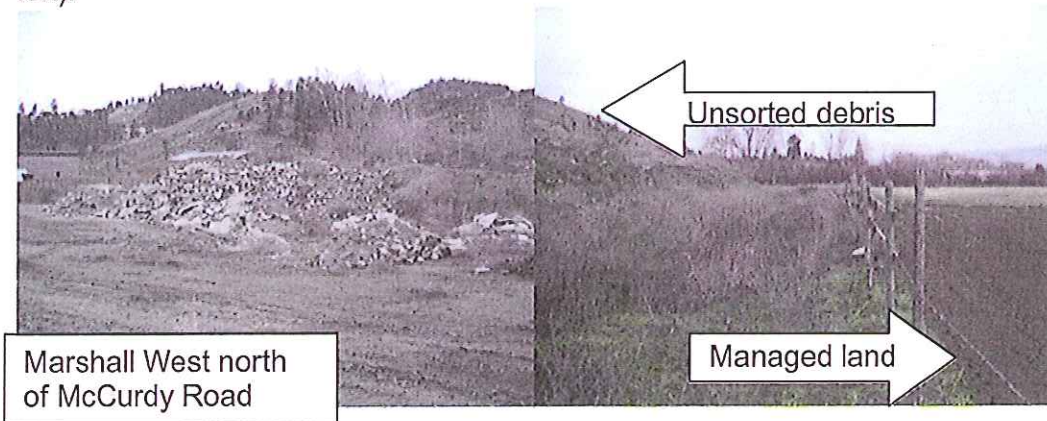
The Soil Management Handbook for the Okanagan and Similkameen Valley designates

Grassland: sites which are suited to the grassland crop group may not have a high animal unit month (AUM) carrying capacity. They are best suited to “grass

² Email communication, April 4, 2011

species". Grasslands are defined as lands where native vegetation, including grasses, forbs, sedges, shrubs and trees, and cultivated species, i.e., crested wheatgrass or reed canarygrass, grow well. They may have been revegetated to include tame forages, however, intensive forage production, irrigation, drainage or fertilization is not normal. If harvested, they are normally harvested by grazing due to steepness and/or stoniness. Areas are designated to this crop group when slopes are 15% and up, stoniness greater than S3 and depth of the soil less than 50 cm over compact till or bedrock. Some lowland, wetter sites or soils have also been given this crop group designation. This is a result of several soil limitations which do not allow for use of soil management inputs at an economic level. These lands may be Crown or privately owned. Grassland sites may or may not be used for grazing, outdoor recreation or may be held as ecological reserves.³

The 1997 City of Kelowna Agricultural Plan indicates that the north piece of this site has class 2 soils.⁴ The site visit on April 1 found that this land has been used as a dumping ground for which has effectively destroyed its value for agricultural production without significant remediation. The following photographs shows managed agricultural land immediately adjacent to the Marshall West site (at left).



The topographic maps, soil classification and City of Kelowna Official Community Plan all indicate that this site may have potential for grain and/or forage production. The site visit on April 1 confirmed that there is a small area (< 2 acres) which could be suitable for dryland grain or forage production. This is explored further in the following section.

³ N. A. Gough, G. A. Hughes-Games, D.C. Nikkel, *Soil Management Handbook for the Okanagan and Similkameen Valleys*, B.C. Ministry of Agriculture, Fisheries and Food, 1994

⁴ Bryce Tupper, P.Eng., NORR Architects Planners Inc., *Marshall West Property, OCP Amendment and Rezoning*, March 24, 2011, page 13

Agricultural Capacity & Feasibility Assessment

Potential Agricultural Activity – Livestock Grazing

Opportunities	Constraints	Potential Area	Estimated Development & Capital Cost	Estimated Total Annual Return
Grazing for an adjunct livestock operation	No adjunct livestock operation	68.2 acres	\$400,000 - 500,000	\$75,000
	Fencing cost of \$10,000/km ⁵	3 km	\$30,000	
	Dryland annual growth of 500 lbs./forage/acre ⁶	60 acres		\$800
	Insufficient land productivity			

Assumptions:

1. Estimated development and capital costs are the investment required to develop an agricultural enterprise.
2. Estimated development and capital costs do not include annual operating costs.
3. Estimated total annual returns are on a gross return basis.
4. No evidence of water rights on the property.⁷
5. Fencing is required to keep livestock on the property and away from the creek.
6. A cow/calf unit requires 4 acres of reasonable forage/month⁸ and access to water.
7. Well drilling costs \$7,000 – 10,000/test well.
8. Grazing quality poor to fair, maximum 70-100 days spring to early summer⁹
9. A small beef operation (100 cows) requires investments of \$400,000 – 500,000 while generating less than \$75,000 of gross farm income.¹⁰

⁵ Greg Tegart, P.Ag., Central Manager, B.C. Ministry of Agriculture, Sustainable Agriculture Management Branch, personal communication, April 4, 2011

⁶ ibid

⁷ Bryce Tupper, P.Eng, NORR Architects Planners Inc., personal communication, April 4, 2011

⁸ Greg Tegart, P.Ag., Central Manager, B.C. Ministry of Agriculture, Sustainable Agriculture Management Branch, personal communication, April 4, 2011

⁹ B.M. Wikeem, A. McLean, A. Bawtree and D. Quinton, *An Overview of the Forage Resource and Beef Production on Crown Land in B.C.*, Can. Journal of Animal Science, December 1993, 73: 779-794

Potential Agricultural Activity – Grain & Forage Production

Opportunities	Constraints	Potential Area	Estimated Development & Capital Cost	Estimated Total Annual Return
Specialty grain (eg. Emmer, Einkorn, spelt)	Available small scale equipment	< 2 acres	\$35,000 - \$50,000 (used equipment)	\$600-800
	Equipment access			
	Dryland production with associated limited productivity			
Forage production	Available small scale equipment	< 2 acres	\$35,000 - \$50,000 (used equipment)	\$200-250
	Equipment access			
	Dryland production			

Assumptions:

1. Estimated development and capital costs are the investment required to develop an agricultural enterprise.
2. Estimated development and capital costs do not include annual operating costs
3. Estimated total annual returns are on a gross return basis.
4. No evidence of water rights on the property¹¹
5. Well drilling costs \$7,000 – 10,000/test well.
6. Equipment complement includes a maximum 30 HP tractor, cultivator, seeder, combine or harvester-thresher for grain, swather, tedder and baler and for forage production.
7. A dryland forage operation in this location will likely only get one cut/season plus fall grazing. Estimated production = 20- 25 bales/acre @ \$5/bale
8. Gaining farm status for this land would require a minimum of \$2,500 gross annual income plus 5% of the regulated value of the land over 10 acres¹², estimated at \$4,800/year.

¹⁰ Grant Henry, P.Ag. *Beef Production – An Economic Profile*, Economic Development Branch, BC Ministry of Sustainable Resource Management, March 2003

¹¹ Bryce Tupper, P.Eng, NORR Architects Planners Inc., personal communication, April 4, 2011

¹² BC Assessment Factsheet “*Classifying Farm Land*”, <http://www.bcassessment.ca/public/Fact%20Sheets/Classifying%20Farm%20Land.aspx>

Potential Agricultural Activity – Horticultural Operation

Opportunities	Constraints	Potential Area	Estimated Development & Capital Cost	Estimated Total Annual Return
Greenhouse	Land remediation	< 2 acres	\$??	
	Very capital intensive		\$1 million/acre	
	Water			
	Aspect (east)			
Nursery	Land remediation	< 2 acres	\$??	
	High development costs		Minimum \$250,000	
	Water			
	Aspect (east)			

Assumptions:

1. Removal of added debris would have associated excavation, trucking and disposal costs.
2. Land could be remediated with a program of excavation, removal and intensive soil rebuilding over time. No estimate for this cost was available.
3. No evidence of water rights on the property¹³
4. Well drilling costs \$7,000 – 10,000/test well.
5. Greenhouse tomatoes, peppers, cucumbers and eggplant are regulated products unless grown as certified organic production.¹⁴
6. Greenhouse and nursery production both require specialised technical production and/or marketing abilities.

Conclusions

The existing Marshall West site has limited feasibility as an agricultural operation without a contiguous viable agricultural (livestock) operation, bordered as it is by residential use and industrial use. The lack of access to water rights, the costs of fencing, poor quality of the grazing due to slope and invasive plant species, the limited area suitable for crop production, the access issues (due to topography) for production equipment and the challenges of remediation on the portion within the Agricultural Land Reserve all combine to render this site economically unfeasible for an agricultural operation.

¹³ Bryce Tupper, P.Eng, NORR Architects Planners Inc., personal communication, April 4, 2011

¹⁴ *An Overview of the B.C. Greenhouse Industry*, BC Ministry of Agriculture Food and Fisheries, November 2003



Land Reserve Commission
Working Farms, Working Forests

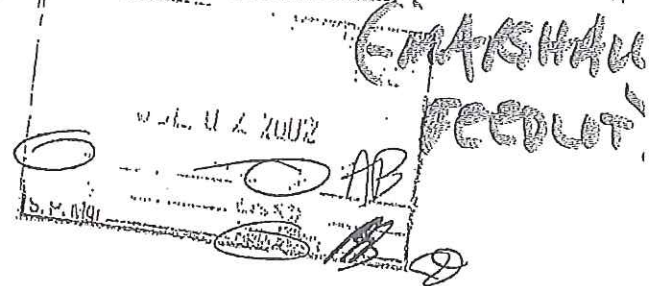
Rod ✓
Mk Nap ✓

ALR EXCLUSION

June 26, 2002

Reply to the attention of Martin Collins

Kelowna Packers Ltd.
2678 Highway #97 North
Kelowna, BC V1X 4J4



Dear Sirs:

Re: Application #G-25680 (Marshall Feedlot)
Lot 2, District Lot 124, Osoyoos Division Yale District, Plan 1879
Lot 1, District Lots 124 and 415, Osoyoos Division Yale District, Plan 1879, Except Plan 8341
Lot "A", District Lot 124, Osoyoos Division Yale District, Plan 8341,
Lot "A", District Lot 124, Osoyoos Division Yale District, Plan 4571

The Land Reserve Commission (the "Commission") has now had opportunity to reconsider its decision by Resolution #1012/94 whereby it refused the exclusion of the above noted properties from the Agricultural Land Reserve. The reconsideration was prompted by the Commission's consideration of the City of Kelowna's Agriculture Plan (1999), decisions on the major street network affecting the block in question and recently completed bylaw changes. Further to its June 19, 2002 site visit the Commission writes to advise that by Resolution #241/2002 it has allowed your proposed exclusion in part. The Commission agreed to exclude those portions of the above noted properties lying south of the proposed McCurdy Road extension.

The Commission identified the lands south of the McCurdy Road Extension as suitable for exclusion through a collaborative planning process with the City of Kelowna. This being said, the Commission is not prepared to exclude the lands lying north of the proposed McCurdy Road Extension as this land is suitable for agricultural development, and also has a lengthy history of agricultural use. In addition, the Commission believes the proposed road will serve as a significant buffer between the excluded area and the remaining agricultural lands. The excluded area is shown on the attached plan.

The Commission suggests you prepare a subdivision plan that creates the excluded area as one or more legal parcels and designates the McCurdy Road right of way. By separating the ALR portion from the non - ALR portion the Commission will be able to accurately advise the Registrar of Land Titles as to which title(s) must be endorsed with the ALR notation.

When the final survey plans and/or documents have been prepared, please send two (2) paper prints to this office well in advance of commencing registration. The Commission will then authorize the Registrar of Land Titles to accept the application for deposit of the plans and/or documents and issue a Certificate of Order confirming the exclusion of the specified area from the Agricultural Land Reserve Plan of the Regional District of Central Okanagan. Please write and let the Commission know if you are going to have a subdivision plan prepared.

Kelowna Packers Ltd. -- June 26/02
Page 2

Finally, the Commission reminds you that its approval does not relieve you of the responsibility of adhering to any other enactment, legislation or decision of any agency having jurisdiction. Please contact the City of Kelowna as other approvals may be needed before development can proceed.

Please quote your application number in any future correspondence.

Yours truly,

LAND RESERVE COMMISSION

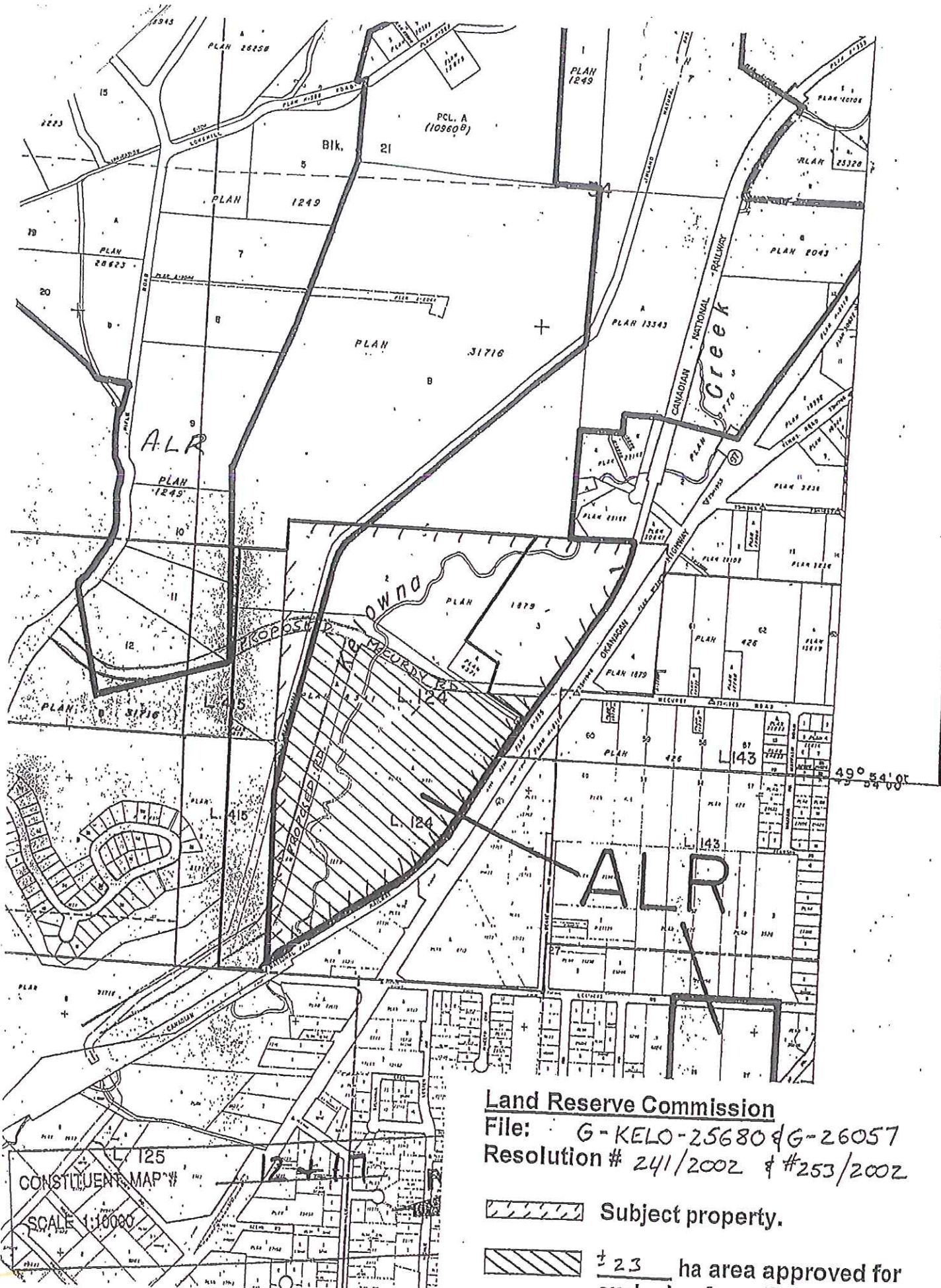
per:



K. B. Miller, Chief Executive Officer

cc: City of Kelowna
BC Assessment, Kelowna

MC/lv/Encl.




Land Reserve Commission

File: G-KELO-25680 & G-26057

Resolution # 241/2002 & #253/2002

 Subject property.

 ± 2.3 ha area approved for

CONSTITUENT MAP #

SCALE 1:10000



Land Reserve Commission
Working Farms, Working Forests

Rod ✓
MK Napier ✓

ALR EXCLUSION

June 26, 2002

Reply to the attention of Martin Collins

Kelowna Packers Ltd.
2678 Highway #97 North
Kelowna, BC V1X 4J4



MARSHALL FEEDLOT

Dear Sirs:

Re: Application #G-25680 (Marshall Feedlot)
Lot 2, District Lot 124, Osoyoos Division Yale District, Plan 1879
Lot 1, District Lots 124 and 415, Osoyoos Division Yale District, Plan 1879, Except Plan 8341
Lot "A", District Lot 124, Osoyoos Division Yale District, Plan 8341,
Lot "A", District Lot 124, Osoyoos Division Yale District, Plan 4571

The Land Reserve Commission (the "Commission") has now had opportunity to reconsider its decision by Resolution #1012/94 whereby it refused the exclusion of the above noted properties from the Agricultural Land Reserve. The reconsideration was prompted by the Commission's consideration of the City of Kelowna's Agriculture Plan (1999), decisions on the major street network affecting the block in question and recently completed bylaw changes. Further to its June 19, 2002 site visit the Commission writes to advise that by Resolution #241/2002 it has allowed your proposed exclusion in part. The Commission agreed to exclude those portions of the above noted properties lying south of the proposed McCurdy Road extension.

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Kelowna Packers Ltd. -- June 26/02

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Please quote your application number in any future correspondence.

Yours truly,

LAND RESERVE COMMISSION

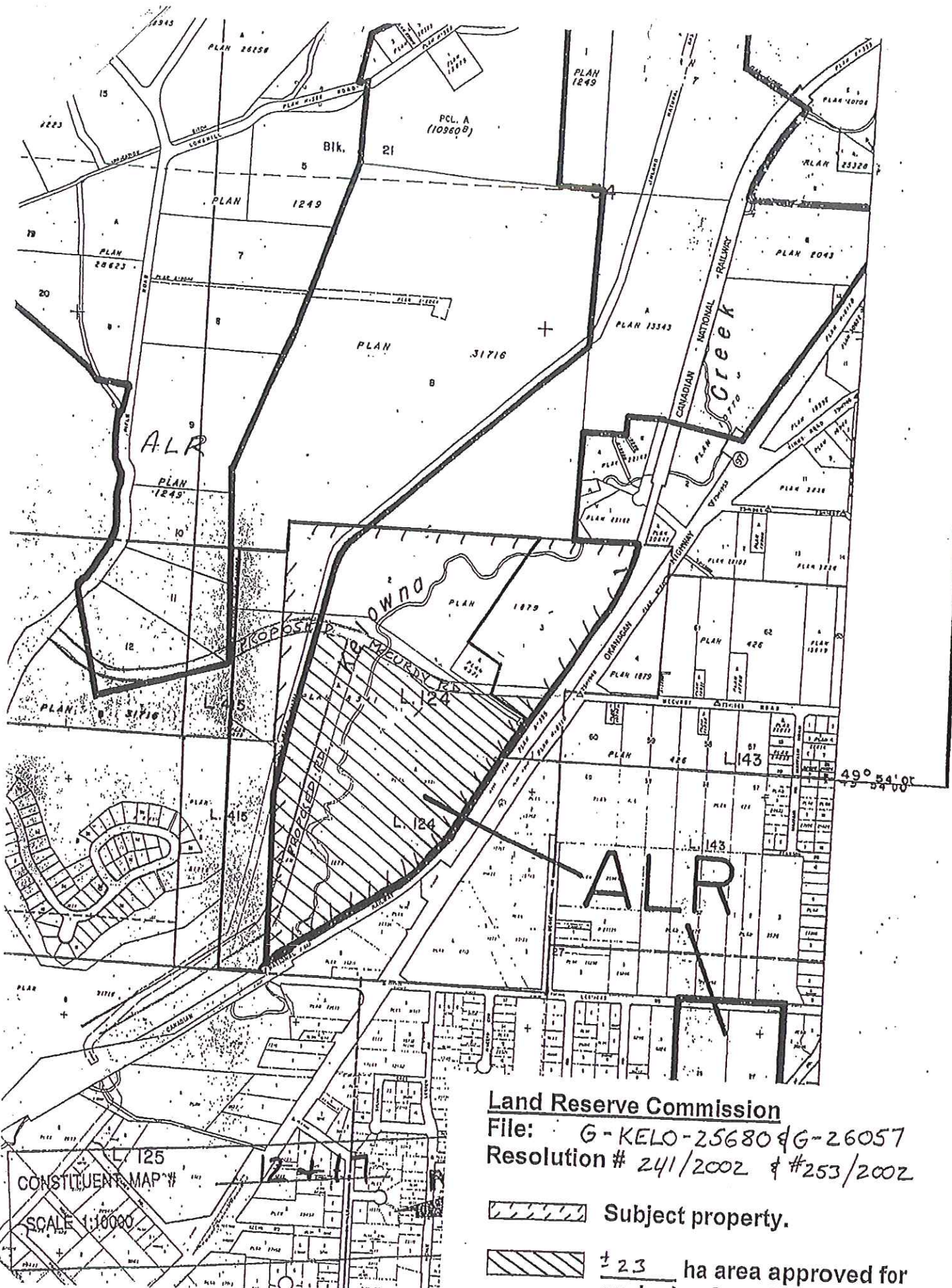
per:



K. B. Miller, Chief Executive Officer

cc: City of Kelowna
BC Assessment, Kelowna


MC/lv/Encl.



Land Reserve Commission

File: G-KELO-25680 & G-26057
 Resolution # 241/2002 & #253/2002

 Subject property.

 ± 23 ha area approved for

CONSTITUENT MAP #

SCALE 1:10000



<p>NORR</p> <p>Northwest Oregon Resource Recovery</p> <p>10000 NE 10th St, Portland, OR 97220</p> <p>503.253.2000</p>		<p>PROUDLY</p> <p>United Partnership</p> <p>Marshall West</p> <p>Hillside Development</p>					
<p>SITE PLAN</p> <p>Project No. 101-00-01</p> <p>Scale: 1/8" = 1'-0"</p> <p>Date: 01/15/01</p>		<p>REVISIONS</p> <table border="1"> <tr> <th>No.</th> <th>Description</th> </tr> <tr> <td>1</td> <td>Initial Issue</td> </tr> </table>		No.	Description	1	Initial Issue
No.	Description						
1	Initial Issue						
<p>APPROVED FOR CONSTRUCTION</p> <p>DATE: 01/15/01</p>		<p>APPROVED FOR CONSTRUCTION</p> <p>DATE: 01/15/01</p>					