Township of Langley
Est. 1873

REPORT TO
MAYOR AND COUNCIL

PRESENTED:	NOVEMBER 19, 2018 - REGULAR AFTERNOON MEETING	**REPORT:**	18-156
FROM:	ENGINEERING DIVISION	**FILE:**	SO 1478
SUBJECT:	NON-FARM USE SOIL DEPOSIT APPLICATION 22384 – 64 AVENUE		

RECOMMENDATIONS:

That Council not refer the non-farm use soil deposit application for 22384 – 64 Avenue to the Agricultural Land Commission and direct staff to not process the application further.

EXECUTIVE SUMMARY:

On April 23, 2018 the Township of Langley received an application from Madrone Environmental Services on behalf of the property owners of 22384 – 64 Avenue (Walia) to deposit 10,000 m^3 or approximately 1,400 single truckloads of soil to elevate the topography of the land and ultimately create a cedar tree farm on the property which is located within the Agricultural Land Reserve (ALR).

As the application volume exceeded 600m^3, the Township mailed an informational package and ballot to surrounding property owners within 1.6 kilometres of the subject property to obtain community input on the application pursuant to Council Policy No. 05-008. The results of the mail-out and ballot process are as outlined in the table below:

Item	Total	Percentage
Total ballots mailed out	232	100%
Total property owners not responding	183	79%
Total ballot responses received	49	21%
Ballots received in support	23	47%
Ballots received against	26	53%

Section 9.3 of the Policy provides direction that generally applications will be supported by Council, when of the surrounding property owners responding, more than 80% support the application. As the level of support for this application was 47%, the recommendation is that this application not be referred to the Agricultural Land Commission (ALC) and that staff be directed not to process the application further. Section 9.3 does provide the option to refer the application to the ALC if Council considers that there are reasons which would merit a departure from the general 80% support rule.

PURPOSE:

This report provides Council with information and a recommendation with respect to a non-farm use application for soil deposition at 22384 – 64 Avenue which is being processed pursuant to Soil Deposit and Removal Policy No. 05-008.

BACKGROUND/HISTORY:

The Township of Langley received an application from Madrone Environmental Services Ltd. on behalf of the property owners of 22384 – 64 Avenue (Walia) to deposit 10,000 m^3 of soil to elevate the topography and ultimately create a cedar tree farm. The Farm Plan and the Soil Deposit Assessment & Erosion and Sediment Control Plan for the site were prepared by Madrone and are included as Attachments A and B. Fill Area Cross-Sections for the proposed deposition are included as Attachment C and indicate a fill depth of approximately 0.5m.

Should Council elect to direct staff to further process the application, a drainage assessment would be required. The site currently slopes from north to south.

As the volume proposed to be deposited exceeds 600m^3, the Township mailed an information package and ballot to surrounding property owners to obtain community input on the proposed deposition as per Council approved Policy No. 05-008 and included as Attachment D.

Pursuant to the Policy, the general public was notified by advertising the application in the local newspapers and on the Township's website. The property owner also installed the required soil deposit application sign at the property.

DISCUSSION/ANALYSIS:

The property at 22384 – 64 Avenue is zoned RU-3 and is located in the ALR. The application proposes to deposit 10,000 m^3 or approximately 1,400 single truck loads of material. It is recommended in Madrone's Soil Deposit Assessment & Erosion and Sediment Control Plan, that access to the site be via major arteries such as Highway 1, Highway 10 and 64 Avenue to the existing driveway on 224 Street. A refundable security deposit in the amount of $50,000 ($5/m^3) would be required to cover potential damage to municipal infrastructure such as roadways should the application be authorized by Council to proceed. In addition, the required non-refundable application fee and volume fee have been collected.

The deadline for property owners to respond to the mail-out was September 7, 2018. The results of the mail-out are as follows:

Item	Total	Percentage
Total ballots mailed out	232	100%
Total property owners not responding	183	79%
Total ballot responses received	49	21%
Ballots received in support	23	47%
Ballots received against	26	53%
Properties in support outside ballot area *	2	-

(*) Two letters of support were received with the application but are from owners located outside of the 1.6 km area.

Section 9 of the Policy provides guidance for Council and may consider the following outcomes for applications on ALR lands:

- A resolution that the application be referred to the ALC for approval, subject to any conditions Council deems advisable;
- A resolution that the application not be referred to the ALC for approval and not be further processed under the Bylaw; or
- A resolution that the Applicant, Township staff, or other specified person(s) be invited to provide further submissions with respect to the application.

Section 9.3 of the Policy provides direction that generally applications will be supported by Council, when of the surrounding property owners responding, more than 80% support the application. As the level of support for this application was 47%, the recommendation is that this application not be referred to the Agricultural Land Commission (ALC) and that staff be directed not to process the application further. Section 9.3 does provide the option to refer the application to the ALC if Council considers that there are reasons which would merit a departure from the general 80% support rule.

Respectfully submitted,

Richard Welfing
MANAGER, ENGINEERING SERVICES
for
ENGINEERING DIVISION

Attachment A Farm Plan

Attachment B Soil Deposit Assessment & ESC Plan

Attachment C Fill Area and Cross-Sections

Attachment D Soil Deposit and Removal Policy 05-008

Attachment A

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FARM PLAN

22384 64th Avenue, Langley, BC

FOR:

Tejinder and Navneet Walia
22384 64th Avenue
Langley, V2Y 2N8

BY:

Jessica Stewart, A.Ag.

Madrone Environmental Services Ltd.

Revised October 1, 2018
April 14, 2017

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FARM PLAN

22384 64th Avenue, Langley

1 Introduction

Madrone Environmental Services Ltd (Madrone) was retained by Navneet Walia to prepare a Farm Plan for 22384 64th Avenue in Langley, BC ("the property"). The farm plan was requested by the Agricultural Land Commission to assess the feasibility of developing the land for farm use.

Madrone has prepared a separate Soil Deposit Assessment for Navneet Walia - this should be read in conjunction with this report. The report includes an assessment of the land capability for agriculture, in addition to the proposed soil placement procedure.

The farm plan may also be used by the Walia family as a basic guide to the preparation, selection, and establishment of a permanent hedging cedar tree crop that will occupy approximately 59% of the 3.4 ha lot or approximately 2.0 ha (**Figure 1**). The cedar crop will grow in an open field environment rather than indoors in greenhouse nurseries or 'hoop houses'. Tejinder and Navneet Walia, who will be the primary agricultural operators, intend to sell the cedar trees by direct farm retail.

In order to be classed as farm land and qualify for a farm tax exemption from BC Assessment, farm gate sales for new farm applications with a total area of between 0.8 ha and 4.0 ha must meet the minimum of $2,500 every year (the reporting period)[1]. If the cedar crop is established, the qualifying farm use will be "forest seedling and seed production".

[1] https://www.bcassessment.ca/about/_layouts/15/WopiFrame.aspx?sourcedoc=/about/Shared%20Documents/Classification_of_Land_as_a_Farm_Regulation.pdf&action=default&DefaultItemOpen=1 Classifying Farm Land. Accessed January 25, 2017

2 Site Description

The subject property (PID 005-415-977) is located in the Township of Langley near the intersection of 64th Avenue and 224th Street.

According to the Township of Langley's Geosource[2] program, the parcel area is 3.54 ha (8.75 acres). The property will partly be used for agriculture, partly for residential use, and partly for truck parking. The legal site description and zoning of the parcel is listed in Table 1.

Table 1. Descriptions of Lot

Legal Description	Property Area	Zoning
LT 28, SEC 7, TWP 11, NWD, PL PID: 004-073-606	3.54 hectares (8.75 acres)	ALR and RU3

The rectangular lot is oriented lengthwise north-south, with dimensions of 130 m (width) by 275 m (length). Lands to the north, east and south of the property are all vacant woodland. To the west, there are two single-family dwellings on separate lots. All surrounding properties (including the residences to the west) are zoned RU3 (Rural Three) and all are within the ALR. From airphoto imagery and my field assessment, it appears that none of the surrounding properties are currently used for any agricultural purpose.

3 Current Land Use and Plans

The Walia family resides in the single family residence located in the northeast corner of the property. There is an approximately 0.3 ha area located to the south of the residence that is a cleared gravel lot. It is currently used for truck parking. The remainder of the property to the south was forested until 2016 – it has since been completely cleared of trees and other vegetation. There are no buildings or structures located in the cleared area. At this time, the property is not currently being used for any agricultural production.

The native soils in this area are imperfectly drained Luvisols that have developed from marine sediments. The identified land use capability limitations are high water tables, seasonal aridity, and poor to very poor drainage (Class 3WAD).

[2] http://geosource.tol.ca/external/ Accessed January 25, 2017

The current soil deposit assessment (prepared by Madrone) recommends that the excess water limitation can be improved by depositing an estimated 10,000 m^3 of good-quality fill on approximately 2.0 ha, which will elevate the topography.

The fill will be placed in the cleared southern area. In accordance with the Township of Langley Soil Deposit and Removal Bylaw 2013 No. 4975, no soil will be placed within 3 m of all property lines. Additionally, the slopes of the deposited soil will not exceed 1:5 (V:H) where soil is deposited within 6 m of property lines.

4 Agricultural Plan – Hedging Cedar Tree Crop

4.1 Site Preparation Prior to Fill Placement

Prior to fill placement (and stripping of the upper 30 cm of native topsoil to be mixed with fill for organic matter content), any tree branches or roots should be cleared from the land if not done already. Plant remains and branches can be chipped with a wood chipper and set aside for later use as compost, if desired.

As detailed in the Soil Deposit Assessment, the deposited fill material should be coarse to medium-textured sandy loam or loamy sand with less than 10% coarse fragments (defined as 2.5 cm or larger). The proposed depth of placed soil is to be approximately 60 cm. The site should have a slight slope and have no frost pockets.

If the imported soil contains a high density of clasts (*i.e.*, rocks) such that it presents a significant problem, then stone removal must be carried out to enable proper cultivation. Stone removal by hand (for stones too small to be removed by machinery) is a laborious process that can be avoided if loads of soils are inspected for stones or other foreign debris prior to off-loading on the property.

After stone removal, the soil placed over the cleared over must then be tilled or plowed to reduce the density of the fill and topsoil and provide a loose growing medium. This will be particularly important if heavy machinery has compacted the soil during placement activities (which will encourage ponding at the surface).

Following tilling, the fertility of the native topsoil will dictate the need for applications of manure or compost. Soil testing is suggested to detect soil nutrient imbalances. If organic

matter is required, manure or compost[3] should be surface applied (preferably in the spring, though fall planting may dictate earlier application before heavy rains commence) and worked into the upper 20 cm – 30 cm of soil via plowing, roto-tilling or disking (depending on availability of these farming implements). This may be undertaken once the ground is relatively dry.

The City of Vancouver landfill in Delta sells nutrient-rich compost to the public, produced on site from public yard and garden waste. The cost of this compost is $\$8/m^3$. This organic fertilizer option is a sustainable and locally convenient option. There are many other options for organic soil amendments, including locally sourced chicken and mushroom manure.

Soil pH should also be tested prior to planting. Most species and varieties prefer a soil pH of 6 to 6.5, but will tolerate up to 7.57. The soil pH can be lowered with the addition of sulphur or iron sulphate and raised with the addition of limestone or dolomite.

4.2 Field Preparation

Once the soils are prepared as detailed above, the southern cleared portion of the property is a suitable location for a cedar tree crop. This area is approximately 2. 0 ha in extent (4.9 acres). The area should be well laid out in advance of planting to ensure good access to the field, particularly if machinery is to be used for irrigation and fertilizer applications, for example.

It is not necessary to plant the full extent of the field in the first season. A portion of land containing a single variety could be planted one year followed by a second portion the following year. This would allow for the Walia's to determine which varieties respond well to local growing conditions.

4.2.1 Planting Plan

For this guide, we considered three common hedging cedars in the Pacific Northwest:

1. Smargd/Emerald (Thuja occidentalis 'Smargd/Emerald');
2. Pyramidalis (Thuja occidentalis 'Pyramidalis'), and
3. Excelsa (Thuja occidentalis 'Excelsa').

[3] This may include some of the chipped/shredded plant remains from land clearing activities, if stockpiled and sufficiently decomposed by this time.

All varieties prefer moist, organic-rich, well-drained soils, and do poorly in dry, sandy soils and excessively moist clay soils. The preferred planting season for these varieties is September through May.

Some or all of these may be the selected varieties for the crop. The Walia's may want to consider researching local demand for specific varieties before deciding their crop. Cedar trees are categorized as Upright Evergreens by the BC Landscape and Nursery Association (BCLNA). The BCNLA Buyer's Guide is a valuable tool for farmers looking to purchase plants and tools to establish their nursery crops. The 2016 guide is available online at: http://bclna.com/bclna-resource/2016-buyers-guide

The trees may be grown directly in the soil ('soil-based') and ultimately harvested bare root or with a ball of soil that is usually wrapped in burlap and tied. This latter stock is referred to as 'balled & burlapped' or B&B. The balled soil option carries a considerable negative impact to the land as soil is removed with each tree harvested.

An alternative to soil-based production is known as container-grown production. The containers can be accommodated in greenhouses or simple 'hoop houses'. According to the BC Landscape and Nursery Association (BCLNA)[4], the benefits of container production (relevant to the property) are:

- returns per hectare can be more than 15-fold greater for container versus field production;
- customers prefer container stock due to its uniformity, ease of handling, and improved establishment;
- the ability to harvest and transplant stock during most of the year;
- plant harvesting is not affected as much by poor weather, such as heavy fall rains;
- it results in accelerated crop growth; and
- it does not directly lead to soil erosion (by removal of soil during ball and burlap production).

In British Columbia, a blended field and container system called pot-in-pot is gaining popularity. A basic nursery container containing the tree is placed within a plastic liner embedded in the soil. Above ground systems have been developed for sites with poor soil drainage (restricting in-ground systems).

[4] http://bclna.com/wp-content/uploads/2015/01/new_grower_links.pdf Accessed January 25, 2017

There are limitations to the containers production systems as well[5]. Containers limit the size of the nursery stock that can be produced and require a higher level of management due to the greater dependence on supplemental irrigation and nutrition.

Trees that are not sold at the end of the season and root bound to the containers may die without winter protection greater threat of root damage as a result of root exposure to more severe temperatures (root damage as a result of root exposure to more severe temperatures). Finally, there is a higher capital investment required in container systems compared to field-based systems.

For the purpose of this farm plan, it is assumed that the Walia's would prefer to use field, soil-based production systems rather than greenhouses or hoop houses. Since the property owners prefer a small scale farm operation, the high initial costs of implementing container systems (including pot-in-pot) and the high level of management make this a poor option.

Photo 1 (left). Example image of the pot-in-pot production system for Standing Evergreens.
Photo 2 (right). Traditional soil-based production system – direct planting in ground.

Prior to planting, furrowed rows could be created by a tractor. The trees could then be planted at a maximum density of 0.6 m x 0.6 m (2' x 2') which for the 2.0 ha equates to approximately 40,000 harvestable trees (leaving some space on the sides of the planned area). Planting at a lower density of 1 m x 1 m (3.3' x 3.3') allows for a greater distance

[5] http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1370 Accessed January 25, 2017

between trees and rows - this spacing equates to roughly 16,000 harvestable trees (again, leaving some space on the sides). Both estimates take into account a 20% loss of trees due to disease, poor aesthetic characteristics, and stunted growth. Thus, approximately 120 rows containing 170 trees each could be planted in the 2.0 ha area.

The average new vertical growth rate of *Thuja occidentalis* is between 6 and 9 inches per year. The mature height is approximately 15 feet, with a width of five feet. Cedars will likely be sold immature, at an assumed average height of 4 feet (48 inches). The maturation period of this crop (for sale) is thus between 6 and 8 years, once the seedlings are established.

4.2.2 Irrigation, Fertilizer

There is an agricultural limitation posed by seasonal aridity. Moisture deficits between early summer and early fall will initially have to be offset by irrigation; the young tree seedlings are sensitive to drought for the first few years, and irrigation is mandatory during this period for successful cultivation. Adequate mulching will also be important to maintain even moisture and temperature in the beds.

There are several options for irrigation. If there is sufficient room and available machinery, a small tanker trailer pulled behind a small tractor or mower could be utilized. Deep watering 2-3 times per week would be sufficient. A less costly but more labour-intensive option is to hand water all seedlings with a pump. Or, a new drip irrigation system can be employed over the established crop area.

Fertilizers are used on an as needed basis (spring and summer only). It is recommended that fertilizers be applied manually to at the base of the tree rather than sprayed over the entire crop or put loose with the root wads. The reason for this is the potential for chemical burn (from high salts) to the roots and foliage, likely resulting in mortality. Chemical fertilizers are generally more expensive than organic fertilizers but offer the advantage of being used on a more prescriptive basis.

4.2.3 Weeds, Pests, and Disease Management

The cost of herbicides, pesticides, and insecticides largely varies and their use will greatly depend on the quality of the seedlings (i.e. disease-free) and local growing conditions.

Herbicides are applied only as necessary. A product which has long been useful for eliminating monocots such as grasses, sedges and reeds is Simazine[6]. Care should be taken when using Roundup, only spot applications should be used as it kills both monocots and dichotomous plants and will kill the cedar trees if applied. Cedar trees have very good resistance to pests and it is not likely that they would require applications of pesticide.

Fungicides may be applied to prevent foliar blight. Keithia blight, caused by the fungus *Didymascella thujina* is the most serious disease of *Thuja* varieties - seedlings and small trees can be killed entirely[7]. Spraying of a product with copper, especially during wet weather (2-3 times per year), while the crop is still comprised of vulnerable seedlings and young trees should be considered.

Disease incidence may be reduced through initial production of one-year-old rather than two-year-old stock. This should be considered when purchasing the initial seedlings. Infection and spread of the blight can be discouraged through low density planting and high light intensity.

Armillaria root rot affects Thuja species and most often infects plants **on newly cleared land (which is relevant to the property).** The first symptoms are leaf yellowing and wilting, and plant decline and dieback. A white mat of fungal mycelium (or dark brown to black, shoestring-like strands called "rhizomorphs") may be present at the base of the tree under the bark. There is no chemical control method available. Root rot can be avoided by only watering deeply when needed. The prepared site should remain fallow for at least one year before planting (it has been fallow for at least six months at the time of this report).
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5 Establishment Costs

Establishment will involve preparation of the land, selection and purchase of stock and planting. The costs of establishment are largely speculative. Where possible, I have based labour, material, and equipment costs on local (Vancouver or British Columbia) market rates for the most current year.

[6] http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/animal-and-crops/crop-production/nursery-plant-production-guide.pdf Accessed January 26, 2017

[7] http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/animal-and-crops/crop-production/nursery-plant-production-guide.pdf Accessed January 26, 2017

Planting of new crops can began as early as the spring of 2018 although it would be possible to plant in the fall of 2017 if the required stocks are available and the sites readied for the plantings (including fertilizer application). As noted earlier, the specific treatments for the land will depend on the final condition of the deposited fill material and re-spread native topsoil (especially the organic matter content of the topsoil).

It is our understanding that the Walia's are not experienced farmers and will likely contract farm workers. We have assumed labour costs at $15.00 per hour (landscape/nursery labour), and $24.00 per hour for machine labour. These estimates are higher than the reported wages to the Agricultural Labour Pool[8].

Table 1 in Appendix 1 provides a preliminary estimate of the total costs for establishment of a 2.0 ha cedar crop.

5.1 Cedar Crop

Approximately ¼ acre can be planted per person/day. The cost of a 2 year seedling is around $1.00 per plant - the cost decreases to $0.55 per plant if purchased as a large bulk order (e.g. 500+). If planting at a low density of approximately 1 m x 1 m, 20,000 trees will be required. A loss of up to 20% can be expected due to die out, accidents, and poor growth sites. Approximately 16,000 trees can be expected to mature to harvest (6 to 8 years, from an established 2-year seedling). Low density planting is recommended to prevent the spread of disease.

The average price of a good quality, 4-5 ft. cedar tree today is $20. At today's market price, the crop value before all labour, machine and material costs is roughly $320,000. With increased tree maturity (going to 15 ft. full maturation), a higher market price can be expected. There is a cost of $4.50 per tree to be cut, balled and burlapped, if this process takes 0.3 hours per tree. These labour costs total $72,000 if the entire stock was harvested.

The entire plantable area need not be planted all at once. A single acre could be planted one year followed by a second acre the following year and so on. This would allow for a staged sale where only a fraction of the total crop matures and is marketed each year. Another cost to consider is that of installing drip irrigation, as well as the associated pumping station(s), inlets and filters. Basic research shows that drip irrigation, if self-

[8] http://www.agri-labourpool.com/wage-info.aspx. Accessed January 27, 2017

installed, costs approximately $1 per metre[9]. The field would equate to approximately 20,400 m of planting (120 rows at 170 m long).With irrigation kits selling at $275 CAD for 1000 feet (300 m), drip irrigation for the field would cost approximately $18,700.

The appropriate fertilizers and fungicides (and possibly pesticides) must be applied at appropriate stages. The total cost of fertilizer and fungicides on a typical tree farm runs roughly $630 to $1,000 per acre.

These are the establishment costs. After the seedlings are planted, there will be ongoing labour costs associated with the upkeep of the tree farm. Additional costs at this point may also include machine maintenance and repair, fuel (for tractors), tools, materials (i.e. burlap bags), soil, foliar sampling, and soil testing for nutrients, and disease. These can add up to about $1,600 per acre.

If the Walia's do not currently own farm machinery such as tractors and associated farming implements such as plows, we assume for the purpose of this farm plan that they will purchase these items for contracted farm workers to use on site. **I have included the costs of a tractor and furrow plow in Table 1.**

6 Conclusions

The Agricultural Land Commission has asked Tejinger and Navneet Walia for a Farm Plan for their property located at 22384 64th Avenue, to ensure that the planned farm would be a monetarily feasible operation. The farm plan was requested in tandem with a non-farm use application.

After the fill placement and subsequent native topsoil re-spreading, the property will require preparation, which depends on the intended land surface use. For the section of property intended for the cedar tree crop, this includes: stone removal; deep ripping and tining; application of manure, compost, or other organic matter; plowing, roto-tilling or disking of applied organic matter; and the application of either organic or chemical fertilizers.

[9] http://www.irrigationdirect.ca/Drip-Irrigation-Kits-For-Row-Crops-Using-Drip-Tape/ Canadian drip irrigation sales - $275 for 300 m installation kit. Accessed January 27, 2017

A cedar tree crop would be relatively easy to establish and can also have great longevity. The proximity to a large market in the lower mainland and the popularity of cedar hedging (especially for privacy in high-density suburban areas) makes this a potentially lucrative crop.

We estimate that total costs for establishment, including land preparation and planting, amounts to some $74,500 for a cedar tree plantation. Potential gross revenues from a low density cedar tree plantation, based on a harvest cycle of approximately eight years (16,000 trees, upper limit of maturity for sale) is $320,000 averaging $40,000 annually. Harvesting (cut, "bag and burlap") the trees for sale carries a one-time cost of approximately $72,000 (for 16,000 trees). Additional one-time to annual costs such as specialized farm equipment i.e. rototillers), manure/manure application, bird control, hand tools, utilities, maintenance, and soil nutrient sampling may be considerable. Factoring in establishment and harvesting costs ($146,500), if the entire stock was sold, there would be a net profit of $173,500. This assumes that the entire stock is sold, which is unrealistic. **There will be no gross revenues from the cedar tree operation for the first 6-8 years.** However, after these trees mature (and new seedlings are planted in the already established field), gross (and net) revenues will increase.

Once harvested, the most simple retail operation is public u-pick-up. Transactions could be facilitated in a temporary structure/farm stand. With this system in place, the Walia`s would not be required to arrange the sale and delivery of the crop to buyers or wholesale nurseries. Labour costs would also be reduced.

To market the tree farm to customers, the Walia's, with approval from the Township of Langley, could erect an outdoor advertising sign/billboard on their property (if within the bylaws). Traffic volumes along 64th Avenue and 224th Street are considerable. Alternatively, an advertising company could be retained to produce advertisements in local Langley newspapers and other locally relevant publications.

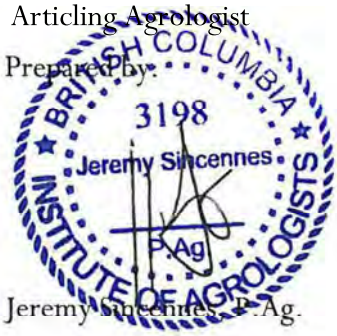
For a property of this size, BC Farm Assessment tax exemption and farm status requires farm sales of $2,500 annually. Based on my calculations, the Walia family should be able to meet this requirement, potentially starting on year 6 when the first harvest occurs.

The establishment of a cedar tree crop on the Walia property is a net benefit to Langley agriculture. It will bring 2.0 hectares of currently unused land into farm production.

Yours Truly,

Jessica Stewart, A.Ag.
Articling Agrologist

Prepared by:



Jeremy Sincennes, P.Ag.

Jeremy Sincennes, P.Ag.
Professional Agrologist

This is a digitally signed duplicate of the official manually signed and sealed document.

Gordon Butt, P.Ag.
Professional Agrologist

APPENDIX I

Cost Table & Figures

Table 2. Estimated Costs for Establishment of 2.0 ha (4.9 acre) Cedar Tree Crop

Establishment	Description of Work	Units/Machine Time	Unit Costs	Total($C, 2017 estimated)
Field Preparation (After Fill Placement)	Machinery – Tractor and Plow	$35,000	-	35,000
	Field preparation – Labour	40 hours	-	$960
Planting	Purchase plants	20,000 trees	$0.55e/tree	11,000
	Plant	10 hours/acre x 4.9 acres	$600/acre	2940
Fertilizer	Purchase	200 kg/acre	$4/kg	3920
	Application	0.5 hours/acre	$30/acre	147
Fungicide	Purchase	4 kg/ha copper spray x 2.0 ha	$30/kg	3x240i = 720
	Application	0.3 hours/acre x 4.9 acres	$18/acre	3x88 = 264
Irrigation (Drip)	Parts	20,400 m planting length	$0.92/1 m	18,700
	Installation - Labour	3 hours/acre x 4.9 acres	$180j/acre	882
TOTAL				= 74,533

[a] Kubota 26 horsepower tractor MSRP $30,000
[b] Kvernland furrow plow, average used price
[c,j] $24.00 per hour machine labour cost, 1 employee.
[d] Low density planting, 20% not harvested due to disease, poor growth etc.
[e] Bulk order price (over 500 seedlings).
[f,h,j] $15.00 per hour manual labour costs, 4 employees.
[g] Local fertilizer costs $20 per 5 kg (20-20-20)
[i] Application of fungicide 3 times per year (while trees are seedlings).

FIGURE 1. OVERVIEW OF THE PROPERTY FACING DUE NORTH. THE APPROXIMATE PROPERTY LINES ARE OUTLINED IN ORANGE. THE PROPOSED CEDAR CROP AREA (AND FILL LOCATION) IS HIGHLIGHTED IN GREEN.

MADRONE
environmental services ltd.

SOIL DEPOSIT ASSESSMENT & EROSION AND SEDIMENT CONTROL PLAN

22384 64th Avenue
Langley, BC

FOR:

Tejinder and Navneet Walia
22384 64th Avenue, Langley, BC
V2Y 2N8

BY:

Jeremy Sincennes, P.Ag.
Jessica Stewart, A.Ag., G.I.T.
MADRONE ENVIRONMENTAL SERVICES LTD.

Revised: September 21, 2018
April 24, 2017

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SOIL DEPOSIT ASSESSMENT & EROSION AND SEDIMENT CONTROL PLAN

22384 64th Avenue Langley, BC

1 Introduction

Madrone Environmental Services Ltd. (Madrone) was retained by Tejinder and Navneet Walia to prepare the necessary documents for Applications to both the Township of Langley and the Agricultural Land Commission for a non-farm use Soil Deposit Permit.

The property is owned by Navneet Kaur Walia. On July 21, 2016, the Agricultural Land Commission issued a letter (File#: 50488) regarding unauthorized soil deposit activity and requesting a non-farm use application for the existing and proposed fill activities on this property.

If approved, the soil will be deposited on the property located at 22384 64th Avenue, Langley, B.C. (PID 005-415-977). The property is zoned as RU-3 according to the Township of Langley Zoning Bylaw. It is within the Agricultural Land Reserve (ALR). The property is 3.4 ha (8.75 acres).

1.1 Description of Proposed Fill Project

Tejinder and Navneet Walia wish to deposit an estimated 10,000 m^3 of clean imported soil on 2.0 ha of the 3.4 ha property to alleviate wetness and utilize the land for agricultural purposes. The raised profile will also improve the 'trafficability' of the land for farm equipment.

The soil will be spread to an approximate maximum depth of 0.80 m and an average depth of 0.60 m. The deposit will be capped with at least 25 cm of native stockpiled topsoil. If

the amount of topsoil sourced from the property is insufficient or lacking in organic content (as determined by a Professional Agrologist during a monitoring visit), imported topsoil will be acquired to complete the soil profile.

The landowner intends to use the improved land for agricultural purposes, specifically to cultivate hedging cedar for the horticultural industry. The land is currently not being utilized for farm use. A farm plan for this property is included with this report.

2 Assessment Area Description

2.1 Land Use

The property is zoned (RU-3) and is the site of one residence (single-family dwelling), one shop and one unspecified building. There is one driveway accessing the property from 224th Street.

There are two properties to the west, one property east, one property south, and one property north which share a boundary with 22384 64th Avenue and are on ALC land.

2.2 Climate

The closest Environment Canada climate station (with the most complete climate data) is Haney East, located approximately 10.3 km from the property, at an elevation of 31 m above mean sea level. Records for this station are available for the 30-year period from 1981 to 2010[1]. Mean annual precipitation at the station was 1787.8 mm and the daily average temperature was 10.0°C.

The Climate Capability Map for Agriculture rates Langley and surrounding area as Moisture Class 3A(I) (Coligado, 1980). Class 3 climate capabilities have a 60-74 day frost-free period and a climatic moisture deficit of 116 to 190 mm. Class 3 aridity limitations indicate drought or aridity between May 1 and September 30 (growing season) resulting in moisture deficits which are limiting to plant growth. Aridity limitations can be improved through irrigation.

[1] http://climate.weather.gc.ca/climate_normals/index_e.html. Accessed June 5, 2016

2.3 Landform and Topography

The site, in its current state, is characterized by simple slightly sloping topography. The topographic base map system for the Township of Langley (Geosource[2]) indicates that the regional elevation is roughly 19 to 20 meters above sea level (Figure 1).

Slopes in the area in general range from 1% to 2% and overall fall from the northern boundary to the south. The northern property boundary of the site is located below 64th Avenue, with a 1 m elevation difference between the lowest point on the southern boundary to the highest point on the northern boundary.

The Geosource mapping tool was used to identify streams and their classification under the Township of Langley - Watercourse Classification[3].

Madrone examined the property for watercourses and identified two roadside ditches: one along 224 street (taking water north) and one along 224th Ave (taking water west). As well, a small depression (<0.5 m wide and 20 to 30 m long), carries temporary rainwater along the west property edge to the 64th Avenue ditch. That area close to 24th avenue is not slated for fill and has not been disturbed by the clearing that has occurred further south on the property.

The site visit confirms the Township of Langley's watercourse map which identifies the only watercourses as the yellow-coded roadside ditches. Yellow-coded watercourses carry water and nutrients to fish-bearing streams but are not likely themselves to have fish. Under Riparian Areas Regulation these roadside ditches, because they are non-fishbearing, would have a buffer of 2 m from Top of Bank (fish-bearing ditches of this width would have a 5 m buffer). Because the property is ALR and the fill is being brought in for farm purposes, the 2 m buffer is the only buffer required for fill. However, this fill application will respect the more conservative 6 m buffer from top of bank used by ToL (in non-ALR situations) around yellow-coded roadside ditches.

Armstrong (1980) mapped the surficial geology of this area as being located on Capilano Sediments (Ce). These deposits are generally silt and silty clay soils 2-8m thick. This conforms to my observations of the surficial geology.

[2] http://geosource.tol.ca/external/ Accessed April 24, 2017

[3] http://geosource.tol.ca/external/ Schedule A – Watercourse Classification Map 3.0 & Township of Langley GeoSource Map program. Accessed April 24, 2017.

2.4 Review of Existing Maps and Information

Soils in the lower Fraser Valley were surveyed at a reconnaissance scale in the 1980`s. Similarly, Land Capability for Agriculture (LCA) ratings were calculated and published as a series of maps. This section of the report summarizes the characteristics of the surveyed soils and the LCA ratings for the property. The source maps were printed at a scale of 1:25,000 and are based on a reconnaissance level soil survey and air photo interpretation and represent a broad interpretation of soils and agricultural capability.

The broad interpretation of agricultural capability recorded on the 1:25,000 maps does not take precedence over the site-specific assessment in this report.

Existing soil survey maps indicate that the assessment area lies at the intersection of two soil series: Berry and Milner (Luttmerding, 1980). The survey map shows level to gently undulating topography.

The LCA rating for the site is Class 3WAD for excess water, seasonal aridity, and poor drainage.

Soil properties, according to soil survey maps, are summarized in Table 1.

Table 1. Summary of Soil Properties, LCA Rating

Soil Series	Parent Material	Texture	Drainage	Classification	LCA Rating (Unimproved)
Berry	Moderately fine to fine textured, stone-free, marine sediments.	Silty loam to silty clay loam.	Imperfectly drained.	Gleyed Podzolic Gray Luvisol	3WAD
Milner	Deep, fine to moderately fine textured, stone free marine deposits	Silty clay loam to clay loam.	Moderately-well drained.	Luvisolic Humo-Ferric Podzol.	3WAD

3 Observations

3.1 Soils

I, Jeremy Sincennes, P.Ag. of Madrone visited the property on October 26, 2016. As part of the assessment, the native soils were examined in one test pit. The pit was hand excavated and was 0.70 m in depth.

In my field assessment I recorded oil profiles, topography, soil disturbance, land use, parent material, and vegetation. I took photographs of each soil profile and of the surrounding landscape. Appendix A contains soil profile descriptions, photographs and site photographs. Soil pit locations are shown on Figure 2.

I identified one soil type during the assessment of the proposed soil deposit site – Orthic Gray Brown Luvisol. This soil correlates well with the Berry soil series described by Luttmerding (1980).

3.2 Land Capability for Agriculture

LCA ratings are assigned, dependent upon soil and site conditions, according to specific criteria presented in Land Capability Classification for Agriculture in British Columbia (Kenk, 1983). The ratings describe the general suitability of the land for agriculture as seven classes for mineral soil and seven classes for organic soil. Agricultural capability classes are modified into subclasses when limitations to agriculture exist. There are twelve subclasses for mineral soils and nine subclasses for organic soils.

In describing LC classes, the number refers to the class (1through 7) and the capital letter refers to the subclass, or nature of the limitation. Thus 3W has a capability of Class 3 (roughly half-way between the best – Class 1 – and the worst – Class 7 agricultural land. The W refers to wetness in the form of high and/or prolonged saturation and high water tables. If the class is preceded by a 0, it indicated the soil is organic instead of mineral.

Based on our assessment, the deposit site has a Class 3WAD limitation for agriculture due to high water tables, seasonal aridity, and poor to very poor drainage.

4 Soil Deposit Proposal

The proposed deposit area is 2.0 ha. My calculations show an estimated 10,000 m^3 of soil is required to increase the elevation of the area by *average* depth of 0.60 m (refer to Figure 3 fill area cross-sections). Note that the diagrams are vertically exaggerated.

The deposit area will be accessed from the east via the driveway from 224th street (see Figure 4). We have communicated to the Client that major arteries such as Highway 1, Highway 10, and 64th Avenue should be used by trucks to approach 224th street, to reduce traffic congestion on minor roads in the Langley area.

The existing topsoil and surface organics will be stripped to a depth of approximately 25-30 cm. The topsoil from the access road into the fill area should also be stripped to a depth of 25-30 cm.

Stripped topsoil and organics will then be stockpiled in a safe location, preferably away from the eastern property boundary, and at least 10 m away from ditches. The stockpile or piles should be no more than 5 m high, with 3:1 (horizontal to vertical) side slopes. They should be constructed such that water cannot accumulate on the surface (ie: a pyramid).

The surface of the stock-pile(s) will be seeded with a suitable mixture of grass and/or grass/legumes (if left for six months or more) OR an erosion blanket or tarp will be placed over the stored topsoil for the duration of the deposit activities. Stripping and stockpiling of topsoil can proceed in stages in different areas over time, as judged by the owner or contractor.

To ensure topsoil does not become compacted, it should be handled only with moisture contents equivalent to field capacity (the moisture content of a soil after free water drainage has ceased) or less.

After the stripping and storage activities are completed, the imported soil will be dumped and then spread to fill in the area south of the existing parking area. The fill area includes the entire width of the property with the exception of a 6 m setback from the property boundary, approximately 120 m. The length of the fill area from south to north is approximately 175 m to 210 m.

Soil placement activities should follow Part 10 of the Soil Deposit and Removal Bylaw 2013 No.4975 (TOL, 2013)[4]. Madrone recommends that the 6 m buffer be maintained between the property boundary and the edge of imported soil - no soil or topsoil stockpiles will be placed within the buffer.

Once the fill has been spread and graded the land may then be developed to facilitate the intended use of hedging cedar production.

[4] http://www.tol.ca/Portals/0/township%20of%20langley/mayor%20and%20council/bylaws/Bylaw%204975%20-%20Soil%20Deposit%20and%20Removal.pdf?timestamp=1441320039340 Accessed March 9, 2016

4.1 Erosion and Sediment Control Plan

An Erosion and Sediment Control Plan (ESCP) has been developed for the site based on the natural topography and conditions observed at the time of our assessment. The ESCP is a dynamic working document and is meant to be reviewed and if necessary amended on a regular basis. The following best management practices should be implemented prior to the commencement of topsoil stripping:

- The access road used will be an existing driveway from 224th Street. The access road should be well-graveled with clean, crushed rock (angular gravels) for at least 20 m. The rock blanket should be at least 30 cm deep.
- Silt fencing, installed according to the specifications in Figure 4, will be placed near the property boundary along the east and south side of the proposed deposit area. This will prevent sediment from transporting off-site and into the ditch east of the proposed deposit site.
- In addition we recommend shutting down all dumping and excavating/grading activities during periods of heavy rain, which we define here as an excess of 25 mm of rain in 24 hours. Hourly rainfall (for nearby Langley) can be monitored on the following website:
  http://www.flowworks.com/network/hmiscreens/langley/langley.aspx

4.2 Imported Soils

The final and future land capability will be influenced by the characteristics of the deposited soil. Contaminated soil, or soil that is suspected to be contaminated, must not be used. It should be free of foreign material and uncontaminated. Foreign material includes but is not limited to concrete, asphalt, waste, garbage, and lumber. The fill material should be inspected to ensure that it is acceptable for agricultural use.

Reviewing existing environmental reports concerning potential contamination at the source site can aid in selecting the best fill material. Soil sourced in areas that have a history, or suspected history, of industrial or commercial use must be tested prior to transportation. Madrone can assist you with soil sampling and monitoring.

The supplier of the fill material should warrant that the source soil is free from contaminants. We recommend that the owner signs a soil acceptance agreement with the parties responsible for supplying and transporting soils (see Appendix C for an outline).

If contaminated fill material is brought onto the site, the Walia family will assume liability for remediating the site and/or removing the contaminated material.

4.2.1 Physical and Chemical Properties of Acceptable Imported Soil

The soil should be free from construction debris, foreign material and contaminants. It should not contain more than 15% organic matter. As agricultural fill, the top 100 cm should consist of an appropriate growing medium, and should contain less than 10% coarse fragments (>2.5 cm). Ensure that the maximum content of stones and cobbles (fragments > 7.5 cm) conforms to the limits described for Class 2P limit of the BC Land Capability Classification for Agriculture: a total coarse fragment content (>25 mm) of less than 10% and less than 1% of coarse fragments larger than 75 mm ("stones"). The texture should be a loam, silty loam, sandy loam or sandy loam. However coarse fragments limits can be higher at depths greater than 1 m.

All imported fill must meet the Soil Standards for Agricultural Land (Column III of Schedule 7 of Contaminated Sites Regulation[5] of the Environmental Management Act).

4.3 Reclaimed Soil Profile

The reclaimed soil profile will have at least 25 to 30 cm of native topsoil, possibly mixed with imported good-quality topsoil, at the surface (depending on the amount of original topsoil recovered). This material will be underlain by 0.50 m to 0.80 m of medium-textured fill soil with less than 5% coarse fragments.

5 Regional Hydrology

After the soil has been dumped and spread the next step is grading to ensure a flat, relatively smooth surface that will allow water to continue to flow to its natural path into the area east of the fill area. The cross sections in Figure 3 show a 1% slope to the east conforming to the natural slope.

Otherwise, the hydrologic conditions in the surrounding lands should not be affected by the placement activities. As detailed in Sec. 2.3, the property naturally slopes to the north and east, and has ditches on both its north and east perimeter.

[5] http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_07 Accessed April 24, 2017

6 Post-Fill Land Capability for Agriculture

Adding mineral soil will elevate the topography in the target fill area of the property and will improve drainage in the subsurface. We estimate that the post-fill Land Capability for Agriculture ratings will improve from Class 3WAD with excess water limitations to a Class 2WAD with only short periods of excess water in the winter. The aridity limitation can be eliminated through drip or sprinkler irrigation.

7 Potential Impacts to Agriculture

Importation of good-quality soil will elevate the land by an *average* of 60 cm (prior to settling and compaction) in the fill area, which should alleviate adverse wetness. And provide a suitable soil surface for cedar tree production. After settling and compaction the net increase should be 50 to 55 cm.

The proposed project, if conducted according to our recommendations, will convert nearly 2.0 ha of land into active agricultural land, and pose no impact to surrounding agricultural lands.

8 Reporting and Monitoring

Soil placement activities should be monitored regularly. Monitoring visits should be scheduled to coincide with important project milestones and randomly when the site is active. The important milestones are:

- The completion of topsoil stripping to ensure that an appropriate amount of topsoil has being stripped.
- After significant rainfall event (25 mm/24 hours or greater) during filling to inspect the Erosion and Sediment Control (TOL ESC Bylaw requirement); OR if conditions are drier (summer fill placement), we recommend routine monitoring every 200 truckloads or 1000 m^3.
- Once the imported soil has been graded, prior to spreading topsoil.
- When the reclaimed soil profile has been constructed. If the topsoil depth is inadequate, imported soil may be acquired at this point. The amount of soil will be recommended by a Professional Agrologist.

The terms of your permit(s) may indicate that Madrone is expected to conduct inspections of the site and materials and to provide inspection reports to the Township of Langley and/or the ALC. In this case, you should contact Madrone before you begin soil placement

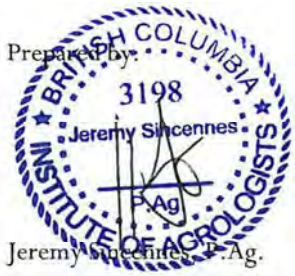
or site preparation work to develop a monitoring schedule that meets the conditions of your permit and conforms to our recommendations.

A closure report should be prepared once the project is complete. The report should include an assessment of the final land capability for agriculture ratings and a comparison between the initial and final land capability for agriculture (LCA) ratings. It should contain an estimate of the volume of soil placed and details about the source site(s).

We recommend that accurate and complete records of all fill brought to the site (see Appendix C). Records must contain, at a minimum, the location of the source site(s), the volume and number of loads with date and time of delivery, and the name of the trucking company.

Yours Truly,

Prepared by:



Jeremy Sincennes, P.Ag.

Reviewed by:

This is a digitally signed duplicate of the official manually signed and sealed document.

Gordon Butt, P.Ag.

September 2018 Revision by:

Jessica Stewart
MADRONE ENVIRONMENTAL SERVICES

9 References

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Township of Langley (2013). Soil Deposit and Removal Bylaw No.4975. < http://www.tol.ca/Land-Use-and-Development/Soil-Deposit-and-Removal>[accessed March 24, 2015].

10 Limitations

The evaluations contained in this report are based on professional judgment, calculations, and experience. They are inherently imprecise. Soil, agricultural, hydrological, and drainage conditions other than those indicated above may exist on the site. If such conditions are observed, Madrone should be contacted so that this report may be reviewed and amended accordingly.

The recommendations contained in this report pertain only to the site conditions observed by Madrone at the time of the inspection. This report was prepared considering circumstances applying specifically to the client. It is intended only for internal use by the client for the purposes for which it was commissioned and for use by government agencies regulating the specific activities to which it pertains. It is not reasonable for other parties to rely on the observations or conclusions contained herein.

Madrone completed the field survey and prepared the report in a manner consistent with current provincial standards and on par or better than the level of care normally exercised by Professional Agrologists currently practicing in the area under similar conditions and budgetary constraints. Madrone offers no other warranties, either express or implied.

APPENDIX A

Soil Profile Descriptions & Site Photographs

SP1 – Soil Profile Description

Horizon	Depth (m)			Description
Ah	0.00		0.10	Brown; granular; moist; plentiful roots; friable; silty loam.
Ae	0.10		0.35	Brown; massive; moist; plentiful roots; friable; silty loam.
Bt	0.35		0.55	Brown; massive; some roots; massive; very moist; friable; silty loam.
C	0.55		0.75	Dark brown; saturated; silty clay; wet.
Cg	0.75		0.85	Gray; silty clay loam; massive; very moist; firm.

PHOTOGRAPH 1: SOIL PIT 1, LOCATED ON THE NORTHEAST PORTION OF THE PROPERTY.

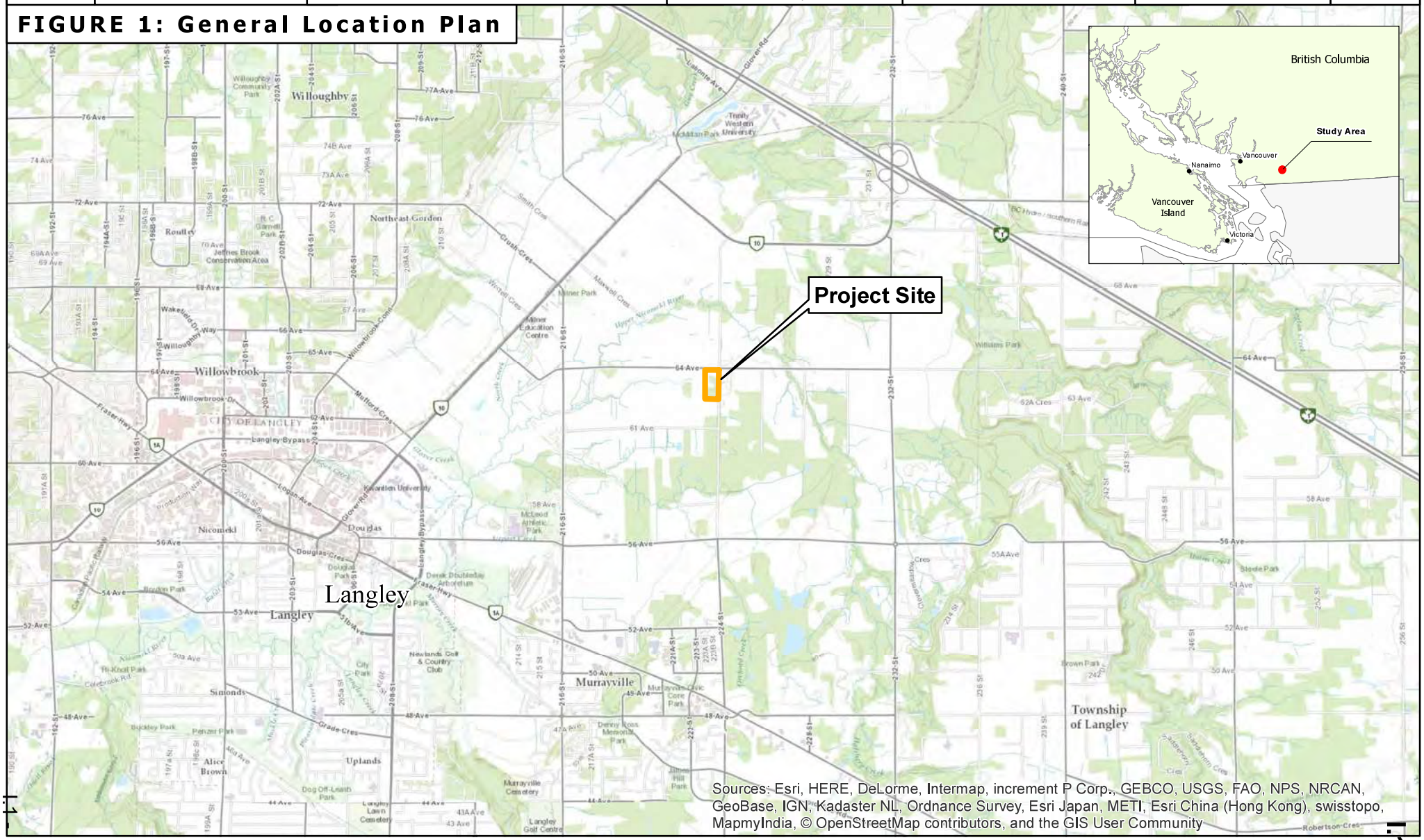
Comments: Orthic Gray Brown Luvisol. Gleyed Cg layer, imperfectly-drained. Class 3WAD limitations.

APPENDIX B

Maps & Figures

PROJECT: Phase I Environmental Site Assessment: 22384 64th Ave (PID 005-415-977)				
LOCATION: Langley, BC	**CLIENT:** Nanveet Walia	**MAP DATE:** November 23, 2016	**DRAWN BY:** Anna Jeffries	**DOSSIER:** 16.0355

FIGURE 1: General Location Plan



Project Site

0 500 1,000 1,500 2,000 m

1:50,000

PROJECT: Phase I Environmental Site Assessment: 22384 64th Ave (PID 005-415-977)				
LOCATION: Langley, BC	CLIENT: Nanveet Walia	MAP DATE: November 23, 2016	DRAWN BY: Anna Jeffries	DOSSIER: 16.0355

FIGURE 2: Site and Surrounding Land Use Plan

Project Site

Zoning Classification:

Rural (RU-3)

0 20 40 60 m

1:1,500

PROJECT:		DOSSIER:
Soil Deposit Assessment: 22384 64th Ave (PID 005-415-977)		16.0355.1
LOCATION: Langley, BC	**CLIENT:** Nanveet Walia	**MAP DATE:** September 20, 2018

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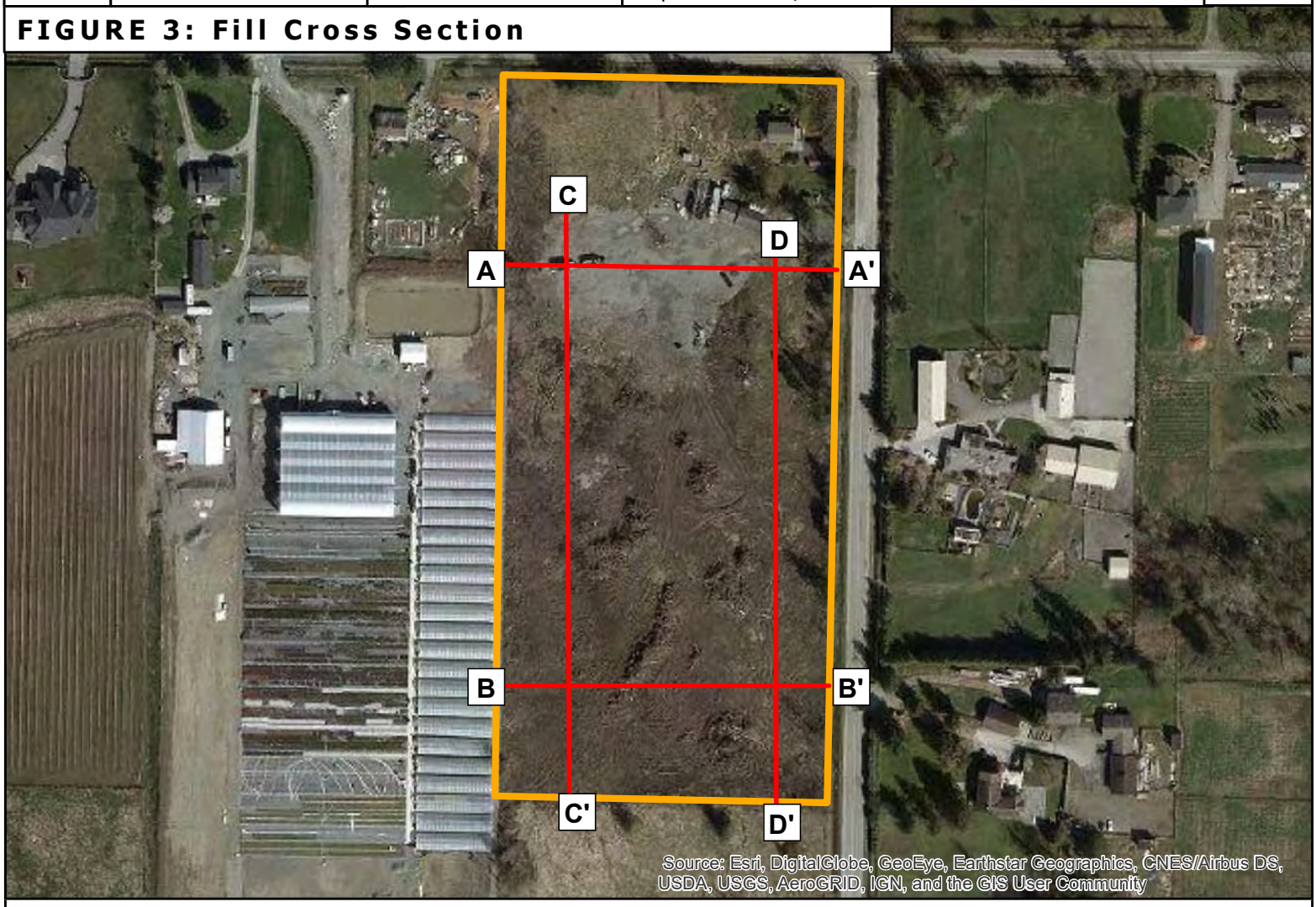
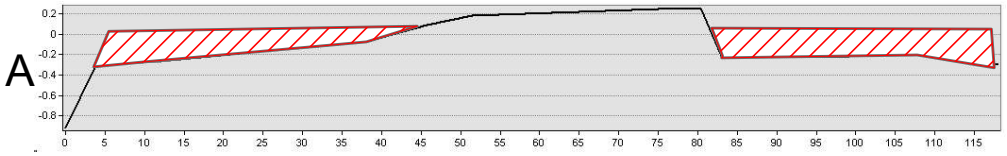
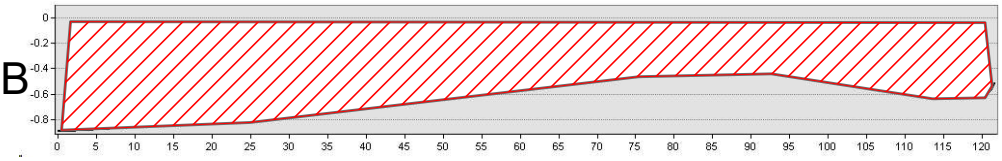
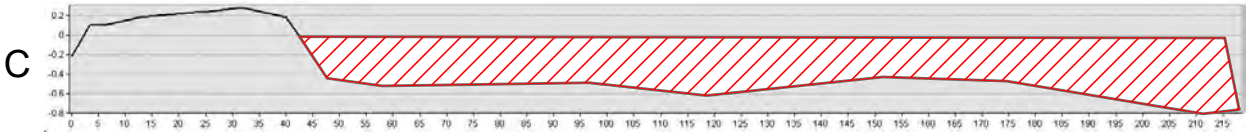
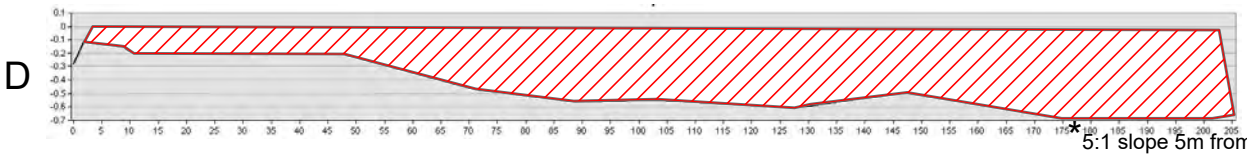
FIGURE 3: Fill Cross Section



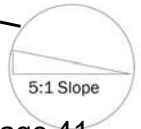








*5:1 slope 5m from property boundary at perimeter.



PROJECT:
Soil Deposit Assessment: 22384 64th Ave (PID 005-415-977)

DOSSIER:
16.0355

LOCATION:
Langley, BC

CLIENT:
Nanveet Walia

MAP DATE:
September 20, 2018

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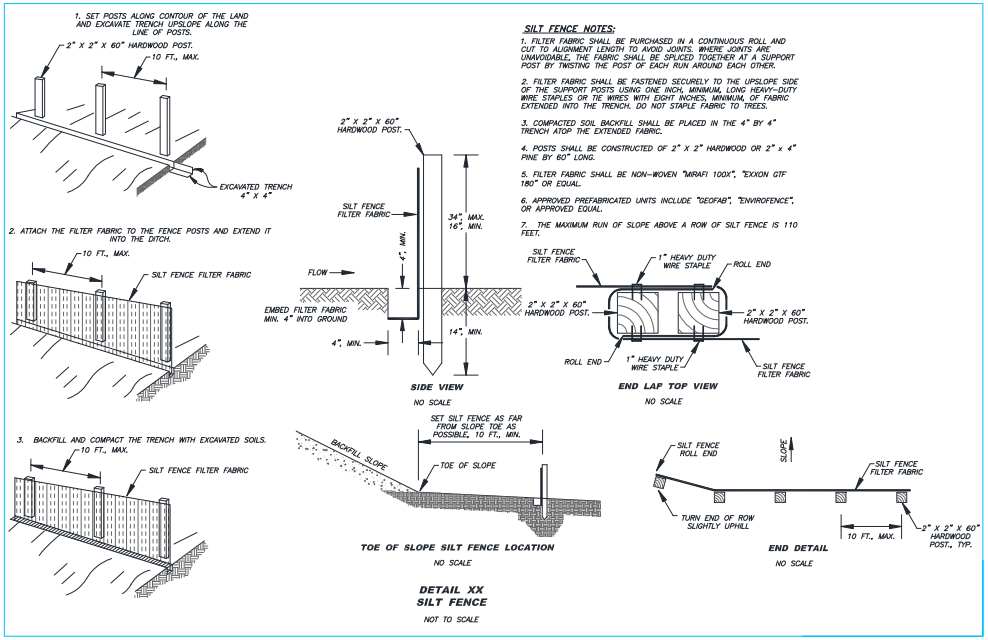
FIGURE 4: Erosion/Sediment Control Plan



Silt Fence

Project Site

I.1

APPENDIX C

Inclusions in Fill Assessment Reports

Inclusion in Fill Importation Assessment reports

For each source site, the owner/operator of the receiving site should secure a written Soil Acceptance Agreement with the parties responsible for supplying and transporting soils. The agreement should specify that:
The imported soil must not contain:

a. any contaminants in concentrations that exceed the standards in Schedule 7, Column III of the Contaminated Sites Regulation under BC's Environmental Management Act, or

b. any hazardous waste as defined in the Hazardous Waste Regulation of the Environmental Management Act,

The imported soil must not have been transported onto the donor site from another site,

The owner of the receiving site has the right to test and/or require the supplier to test for contaminants and soil texture, and to inspect the source site,

The supplier will provide *all* available site contamination reports pertaining to the imported soil and that at minimum a Preliminary Site investigation Phase 1 (or Stage 1) or Phase 2 (or Stage 2) report will be provided for any source site that is an industrial, government or large residential development,

The parties supplying/transporting soils are responsible for removing any soils and remediating any resulting contamination if the soils are found to be contaminated or if the supplier failed to supply all available site contamination reports pertaining to the imported soil, and

Any loads arriving at the site without proper documentation of the source of the soil and evidence of Soil Acceptance Agreement for the source site will be refused entry.

Entrance to the receiving site should be controlled and records should be maintained that identify the source of each load and the parties supplying/transporting the load. Consideration should be given to requiring security deposits from the suppliers/transporters.

MADRONE	**PROJECT:** Soil Deposit Assessment: 22384 64th Ave (PID 005-415-977)		**DOSSIER:** 16.0355
	LOCATION: Langley, BC	**CLIENT:** Nanveet Walia	**MAP DATE:** September 20, 2018

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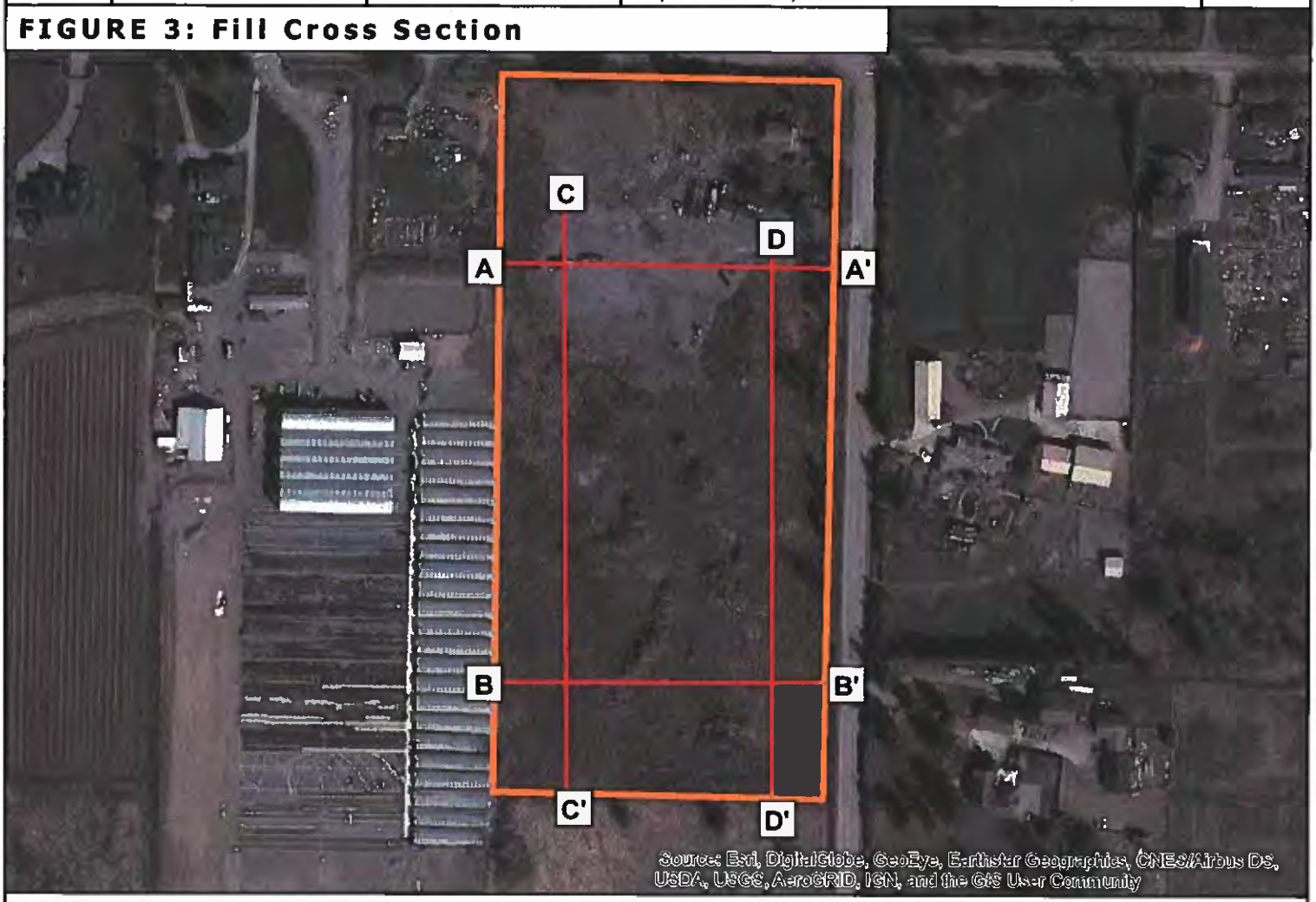
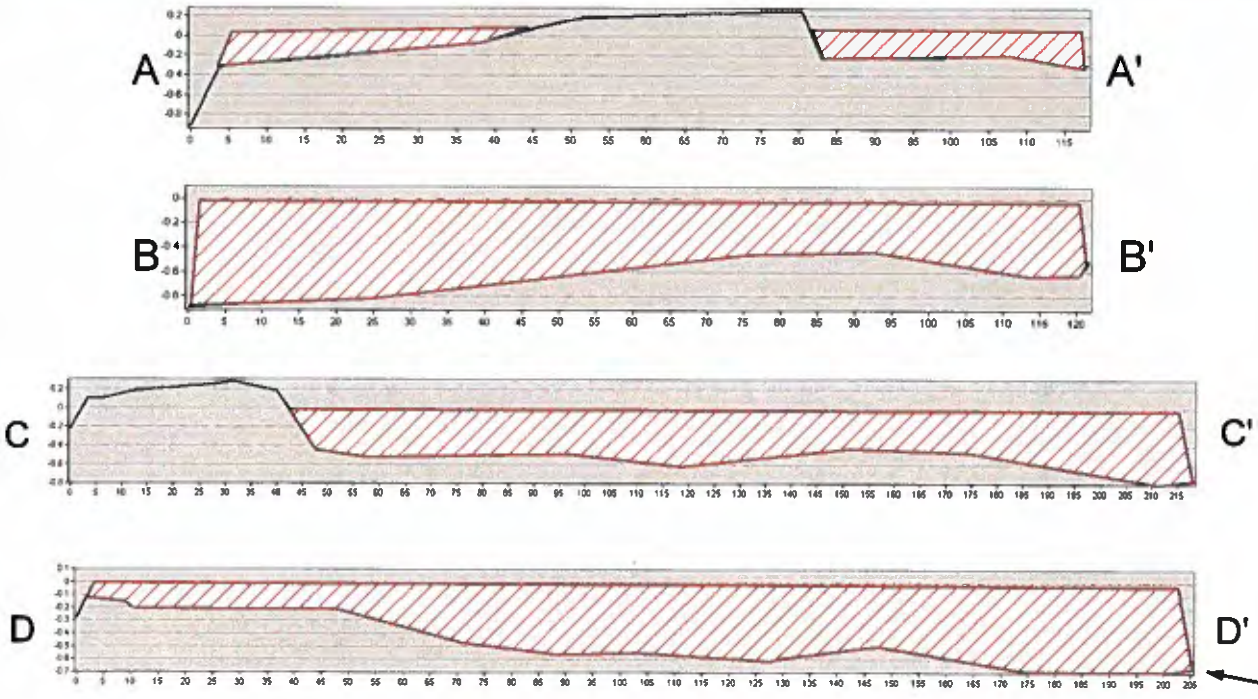
FIGURE 3: Fill Cross Section





Township of Langley
Est. 1873

COUNCIL POLICY

Subject: Soil Deposit and Removal

Policy No:	**05-008**
Previous Policy No:	**05-782**
Approved by Council:	**2015-01-26**
Revised by Council:	**2016-05-30**

1. Purpose

1.1. The purpose of this policy is to set out how, while ensuring procedural fairness for both the Applicant and the public:

(a) members of the public will be notified about an Application;

(b) the public's views about an Application will be collected and considered;

(c) an Application will be considered; and

(d) an Application will be dealt with after such consideration.

2. Background

2.1. This policy repeals Soil Deposit and Removal Policy 05-779 in its entirety and replaces it with a new policy which reflects the current needs of the Township and its residents with respect to the Application..

3. Related Policies

3.1. None.

4. Definitions

4.1. In this Policy:

(a) "**Act**" means the *Agricultural Land Commission Act*, SBC 2002, c 36, as amended or replaced from time to time;

(b) "**ALC**" means the Agricultural Land Commission;

(c) **"ALR"** means land designated as an agricultural land reserve under the Act and includes an agricultural land reserve under a former Act;

(d) "**Applicant**" means a person who submits an Application to the Township;

(e) "**Application**" has the meaning ascribed to it in section 5.1;

(f) "**Bylaw**" means the Soil Deposit and Removal Bylaw 2013 No. 4975, as amended or replaced from time to time;

(g) **"Council"** means the Council of the Corporation of the Township of Langley;

(h) **"Engineer"** means the person appointed by Council to the position of General Manager of Engineering, his or her designates, and Township employees acting under his or her direction;

(i) "**Other Material**" includes but is not limited to Wood Waste, construction and demolition waste, masonry rubble, concrete, asphalt, unchipped lumber, drywall, biological waste, organic waste, fertilizers, manure, composts, mulches, soil conditioners, including any materials listed in Schedule D of the Township of Langley Solid Waste Management Bylaw 2011 No. 4845, as amended or replaced from time to time, but does not include Soil;

(j) "**Permit**" means the written authority granted by the Engineer pursuant to the Bylaw for the deposit of Soil or Other Material or removal of Soil;

(k) "**Soil**" means clay, peat, silt, sand, gravel, cobbles, boulders, or other substance of which land is naturally composed, down to and including bedrock, but does not include Other Material;

(l) "**Subject Property**" means the property upon which an Applicant intends to deposit Soil or Other Material, or the property from which an Applicant intends to remove soil, pursuant to a Permit;

(m) "**Surrounding Property Owner**" means the registered owner of a property located in the Township of Langley and within 1.6 kilometres of a Subject Property, except a property which is exempt from taxation pursuant to section 220 of the *Community Charter*, SBC 2003, c 323, as amended or replaced from time to time;

(n) **"Township"** means the Corporation of the Township of Langley;

(o) **"Township of Langley"** means the geographic area subject to regulation by the Township; and

(p) "**Wood Waste**" means wood residue in shredded form, and includes sawdust, hog fuel, bark, chips, slabs, shavings, trimmings, edgings, or other such waste which is the result of any manufacturing process involved in the production of lumber or other wood products, but does not include any materials listed in Schedule D of the Township of Langley Solid Waste Management Bylaw 2011 No. 4845, as amended or replaced from time to time; and

5. Application

5.1. This Policy applies to:

(a) applications for a Permit to deposit or remove more than 600 cubic metres of Soil; and

(b) applications for a Permit to deposit or remove 600 cubic metres or less of Soil where the Engineer has determined that this Policy applies;

(c) applications for a Permit to deposit Other Material of any amount where the Engineer has determined that this Policy applies;

(each defined as an "**Application**").

5.2. For certainty, this Policy does not apply where a Permit is not required under the Bylaw or where the deposit or removal is permitted under the Act or regulations to the Act without approval by the Township.

6. Notification of the Public About An Application

6.1. Forthwith after receipt of a request by the Township to do so, an Applicant will, at its sole cost and expense, place a sign on the Subject Property in a form and substance acceptable to the Engineer and which is entirely visible from the road from which the Soil or Other Material is expected to be delivered to, or from which the Soil is expected to be removed from, the Subject Property.

6.2. Forthwith after receipt of an Application, the Township shall, at the Applicant's sole cost and expense:

(a) mail to each Surrounding Property Owner a notification letter about the Application;

(b) publish notice of the Application on the Township's website;

(c) publish notice of the Application in two (2) consecutive editions of all three (3) recognizable local newspapers publishing in the Township, to the extent each newspaper remains publishing in the Township, in a uniform size and subject to the Township's corporate standards; and

(d) mail an information package and petition in the form attached hereto as Schedule "A" (a "**Petition**") to each Surrounding Property Owner.

6.3. Prior to any of the Applications listed below in this Section 6.3 being finally considered by Council or the Engineer, as applicable, the Township shall, at the Applicant's sole cost and expense, hold a public meeting at the Township's offices and in a manner determined by the Engineer:

(a) an Application for a Permit to deposit or remove more than 10,000 cubic metres of Soil;

(b) an Application for a Permit to deposit Other Material, if required by the Engineer; or

(c) any other Application for a Permit to deposit or remove Soil, if required by Council or the Engineer.

7. The Public's Views About an Application

7.1. If a Surrounding Property Owner wishes to notify the Township of their views about an Application, the Surrounding Property Owner must mail a signed Petition to the Township or return a signed Petition to the Township's offices in person within sixty (60) calendar days of the date of the Petition.

7.2. After completion of the sixty (60) day period specified in Section 7.1, the Engineer shall calculate and publish on the Township's website:

(a) the number of Surrounding Property Owners who voted in favour of the Application on the Petition;

(b) the number of Surrounding Property Owners who voted against the Application on the Petition;

(c) the number of Surrounding Property Owners who did not return a signed Petition to the Township within the period specified in Section 7.1; and

(d) the number of responses received from the Owners of other properties not owned by the Surrounding Property Owners.

7.3. For certainty, a Surrounding Property Owner who does not return a signed Petition to the Township within the period specified in Section 7.1 will not be counted as having voted either for or against the Application on the Petition.

7.4. Any person who wishes to notify the Township of their views about an Application may submit written comments about the Application to the Engineer within sixty (60) calendar days of the publication of the notice referred to in Section 6.2(b).

7.5. Unless required to do so by law, the Township will not disclose any personal information (including, but not limited to, the name or address) about Surrounding Property Owners or other members of the public who notify the Township of their views about an Application.

8. Referral to Council

8.1. Forthwith following the later of sixty (60) calendar days after the date of the Petition mail out referred to in Section 6.2(d), sixty (60) calendar days after the

publication of the notice referred to in Section 6.2(b) and thirty (30) days after the date of the public meeting held pursuant to Section 6.3, the Engineer will:

(a) refer the Application to Council for consideration at an open Council meeting, which meeting will not be held for at least fourteen (14) calendar days following the Engineer's referral;

(b) mail a notification letter to each Surrounding Property Owner, and to each member of the public who submitted written comments pursuant to Sections 7.4 and 6.3, as applicable, setting out the place where the open Council meeting will be held, the date on which it will be held, and the time at which it will be held; and

(c) provide Council with a written report setting out the numbers described in Section 7.2(a), (b), (c) and (d), and summarizing the comments received by the Township pursuant to Sections 7 and 6.3, as applicable, as well as any other information that the Engineer considers relevant to the Application.

8.2. Prior to the open Council meeting referred to in Section 8.1, the Applicant may submit written submissions about the Application to the Engineer, which the Engineer will provide to Council for consideration, in advance of the open Council meeting where the Application will be considered.

9. Consideration of an Application by Council

9.1. After considering the Application, Council may, but is not obligated to, adopt one of the following resolutions:

(a) if the Subject Property for the Application is located within the ALR:

(i) a resolution that the Application be referred to the ALC for approval, subject to any conditions Council deems advisable;

(ii) a resolution that the Application not be referred to the ALC for approval and not be further processed under the Bylaw; or

(iii) a resolution that the Applicant, Township staff or other specified persons be invited to provide further submissions with respect to the Application;

(b) if the Subject Property for the Application is not located within the ALR:

(i) a resolution that the Application be further processed under the Bylaw;

(ii) a resolution that the Application not be further processed under the Bylaw; or

(iii) a resolution that the Applicant, Township staff or other specified persons be invited to provide further submissions with respect to the Application.

9.2. Where Council has adopted a resolution described in Section 9.1(a)(iii) or Section 9.1(b)(iii), Council may, after consideration of any further submissions with respect to the Application, adopt any one of the resolutions described in Section 9.1.

9.3. Generally, Council will only adopt a resolution described in Section 9.1(a)(i) or Section 9.1(b)(i) if more than 80% of the Surrounding Property Owners who voted, voted in favour of the Application on the Petition for the Application. However, Council has an obligation to consider each Application individually on its merits. To this end, Council may adopt a resolution described in Section 9.1(a)(i) or Section 9.1(b)(i) if less than 80% of the Surrounding Property Owners who voted, voted in favour of the Application on the Petition for the Application, if Council considers that there are reasons which would merit a departure from the above general rule.

10. After an Application Has Been Considered by Council

10.1. After Council adopts a resolution described in Section 9.1 with respect to an Application:

(a) the Township will notify the Applicant of the resolution in writing;

(b) if the resolution is one described in Section 9.1(a)(i), the Township will forthwith refer the Application to the ALC for approval; and

(c) if the resolution is one described in Section 9.1(a)(ii) or Section 9.1(b)(ii), the Township will not process the Application further and the Applicant will not be entitled to submit an Application on the same or similar scope and basis as the Application which was rejected by Council for a period of two (2) years after the date upon which publication notification of the Application was provided under Section 6.2(b).

10.2. For certainty, while a resolution of Council pursuant to Section 9.1 and, with respect to Applications for a Subject Property located in the ALR, ALC approval, are prerequisites to the issuance of a Permit, all requirements of the Bylaw must also be satisfied before a Permit will be issued.

11. Amended Applications

11.1. If an Applicant amends its Application to:

(a) increase the amount of Soil or Other Material to be deposited or soil removed from the Subject Property by more than 10%, or

(b) materially alter the location upon the Subject Property where the Soil or Other Material is to be deposited or Soil removed,

at any time during the processing of an Application by the Township, or after an Application has been referred to the ALC for approval, then the procedures outlined in Sections 6 through 10 of this Policy must be repeated with respect to the amended Application, at the Applicant's sole cost and expense.

SCHEDULE A

Policy No: 05-009

"DATE"

Re: Proposed Deposit/Removal of Soil at _____ Avenue/Street,

Langley, BC (the "Property")

As you may be aware, the owner of the above noted Property has applied to deposit/remove soil on/from the Property (the "**Application**"). Details with respect to the Application may be obtained from the Township by contacting [designated Township contact] at [phone number].

Pursuant to the Township's Soil Deposit and Removal Policy (http://www.tol.ca/soils) the Township is writing to property owners within 1.6 kilometres of the Property to determine the level of support for the Application.

Please take a moment to complete the enclosed petition. We would like a response either way to confirm your decision. Property owners who do not return a signed petition to the Township will not be counted as having voted either for or against the Application. Only the registered owners of the property should vote and if the property is owned by more than one person, all of the registered owners must sign the enclosed petition. Please return your response within six (6) weeks of the date of this letter in the pre-stamped envelope provided. Your name, address and petition vote will not be disclosed unless required by law.

If you have any questions concerning the Application, please contact [designated Township contact] at [phone number].

Yours truly,

PETITION

Re: Application to Deposit/Remove Soil on/from _____, Langley, BC (the "Application")

ROLL NUMBER	CIVIC ADDRESS/LEGAL DESCRIPTION	NAME AND ADDRESS OF OWNER(S)

☐ I/we support the Application

☐ I/we do not support the Application

_____

(Owner) Sign and print name

_____

(Owner) Sign and print name

Any personal information collected on this form will be managed in accordance with the *Freedom of Information and Protection of Privacy Act*.

Direct enquiries, questions or concerns regarding the collection, use, disclosure, or safeguarding of personal information associated with this form to:

Supervisor, Information, Privacy and Records Management

20338 – 65 Avenue, Langley BC V2Y 3J1

Tel.: 604.533.6101 Email: foicoordinators@tol.ca

SCHEDULE B

Township of Langley

ENGINEERING DIVISION
4700 – 224 Street
Langley BC V2Z 1N4
Phone: 604.532.7300
Fax: 604.532.7310
Website: www.tol.ca

SOIL DEPOSIT / REMOVAL PERMIT APPLICATION

NOTES TO APPLICANT:

1. All applicable sections of this form must be completed.

2. Any personal information collected on this form will be managed in accordance with the *Freedom of Information and Protection of Privacy Act.* Please direct enquiries, questions, or concerns regarding the collection, use, disclosure, or safeguarding of personal information associated with this form to:

   Supervisor, Information, Privacy, and Records Management
   20338 – 65 Avenue, Langley, BC V2Y 3J1
   Tel. : 604.533.6101

3. For applications to deposit or remove soil on land which is located **WITHIN** the *Agricultural Land Reserve (ALR)*; an Agricultural Land Commission (ALC) application form shall be required upon the application receiving Council resolution.

Revised January 2015

APPLICATION PURSUANT TO SOIL DEPOSIT AND REMOVAL BYLAW 2013 No. 4975

(Amended from Time to Time)

AND SOIL DEPOSIT AND REMOVAL POLICY NO. 05-008

Note: *The information on this form is collected in order to process your application. All applications are available for review by the public and will be managed in accordance with the Freedom of Information and Protection of Privacy Act.*

Part 1.	**APPLICANT** ***(please complete)***
Registered Owner(s):	**Agent/Operator:**
Address:	**Address:**
Telephone:	**Telephone:**
Email:	**Email:**

Part 2.	**TYPE OF APPLICATION**

☐ TO DEPOSIT SOIL ☐ TO REMOVE SOIL

Part 3.	**IDENTIFICATION OF LAND UNDER APPLICATION** ***(show land on plan or sketch)***
Legal Description:	
Civic Address:	
Size of Land Parcel:	(Total Hectares) Note: 1 hectare = 2.47 acres

Part 4.	**REASONS FOR APPLICATION** ***(Include the proposed usage of the land after completion of soil operation)***

_____

_____

_____

_____

_____

_____

Part 5. PROPOSAL *(show information on plan or sketch)*

***A. Soil to be <u>DEPOSITED</u>.**

Type: _____

Description: _____

Quantity: _____m^2 (Area) x _____ m (Depth) = _____m^3 (Volume)

***B. Soil to be <u>REMOVED</u>.**

Type: _____

Description: _____

Quantity: _____m^2 (Area) x _____ m (Depth) = _____m^3 (Volume)

*****The volume of soil deposited or removed pursuant to this application, as determined by a survey, cannot exceed 110% of the volume referenced herein.

Are there any agricultural activities such as livestock operations, greenhouses, or horticulture activities that may be negatively affected by the fill, removal, and/or processing activity either on the subject or adjacent properties?

_____

_____

What is the proposed duration of the project?

_____

Part 6. CURRENT USE OF LAND UNDER APPLICATION *(show information on plan or sketch)*

List all existing uses of the subject property:

_____

_____

_____

Are there any streams, creeks, watercourses, wells, ditches, drains, sewers, septic fields, catch basins, culverts, manholes, right-of-ways, public utilities, etc...? If so, list the measures proposed to protect them:

_____

_____

_____

Part 7. PROPOSED WORK PLAN/DRAWING/SKETCH TO BE SUBMITTED WITH COMPLETED A PPLICATION FORM

1. A plan and profile drawing shall be prepared and submitted which shall show the following information:

   a) All property lines in relation to neighbouring properties, adjacent rights-of-way, and all public roadways.

   b) The location of all buildings, structures, and improvements on the subject property.

   c) The location of any stream, creek, waterway, wetland, or drainage ditch either on or adjacent to the subject property.

   d) The proposed area for deposit and/or removal of soil.

   e) The site access and egress points.

   f) Measures proposed to control drainage, siltation, and erosion (ESC/SWMP).

   g) Measures proposed to stabilize and landscape lands before, during, and after deposit.

   h) The location of all existing driveways and any temporary driveways/access points which will be required.

   i) The location of any proposed soil stockpile and/or processing areas.

   j) Septic field and well locations.

   k) A north arrow shall be included on the drawing for ease of reference.

2. Cross sectional profiles of the proposed soil area shall be prepared and submitted upon request. A minimum of two (2) profiles will be required, one cutting from North to South and the other cutting from East to West through the soil area. All profiles shall show the following:

   a) The existing ground profile.

   b) The proposed ground profile after placement or removal of soil.

   c) The cross sections must extend at least five (5) metres beyond any property line which is within one hundred (100) metres of the proposed soil area.

3. A site survey may be required for applications involving over 600 cubic metres. The survey must show the existing ground elevations and contours in relation to those of adjoining properties. The survey drawing must also indicate the proposed ground elevations after placement or removal of soil.

4. The Engineer may request any additional information as may be required to enable full consideration to be given to the application.

Part 8. UNDERTAKING AND DECLARATION

Upon approval of this application, I hereby undertake to fulfill the following terms and conditions which shall be deemed to be terms and conditions of the permit, if one is issued:

1. To deposit soil or remove soil in such quantities and in such manner as is specified in the permit, and in accordance with the current Township of Langley Soil Deposit and Removal Bylaw 2013 No. 4975, as amended from time to time; and

2. To restore the land condition to a standard approved by the Engineer, or to restore the land to such condition, and at such time and in such manner, as the Engineer may require; and

3. To pay for any damage to persons or property that, in the opinion of the Engineer, was caused by the applicant and/or the operator.

4. To indemnify and hold harmless the Township, its agents, employees or officers from and against any and all claims, demands, losses, costs, damages, actions, suits, or proceedings whatsoever by whomsoever brought against the Township, its agents, employees, or officers by reason of the Township granting to the owner named herein to conduct the work in accordance with the permit and plan submitted and as described in this application.

I declare that the information contained in the application is, to the best of my knowledge, true and correct.

_____

_____ _____

Signature of Agent (s) Date

_____

_____ _____

Signature of Owner (s) Date

The following documents **MUST** accompany the application unless otherwise exempted by the Engineer:

- ☐ Application Fee
- ☐ Volume Fee
- ☐ Drawing or Sketch
- ☐ Engineer's Report
- ☐ Sediment Control Plan
- ☐ Copy of Certificate of Title or Title Search Print
- ☐ Agent / Operator authorization (if applicable)
- ☐ Survey, profiles and cross-sections
- ☐ Agrologist Report

Note:

Approval of local, provincial, and federal authorities may be required prior to the issuance of any permit.

An application under the Soil Deposit and Removal Bylaw 2013 No. 4975, as amended from time to time, requires the approval of the Corporation of the Township of Langley and the issuance of a permit prior to deposit and/or removal of any material.

This application form must be read in conjunction with the Soil Deposit and Removal Bylaw 2013 No. 4975, as amended from time to time. All provisions contained therein shall apply.