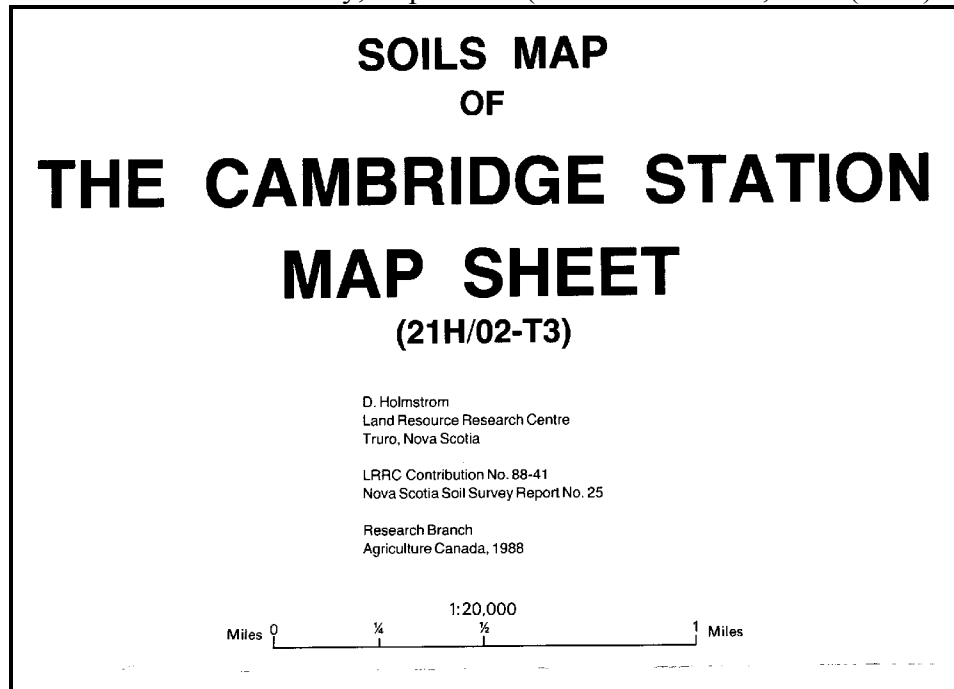


Appendix 3: Source & Scale from Soils of the Cambridge Station Map Sheet  
(21H/02-T3)

Nova Scotia Soil Survey, Report #25 (Source: Holstrom, D.A. (1988))

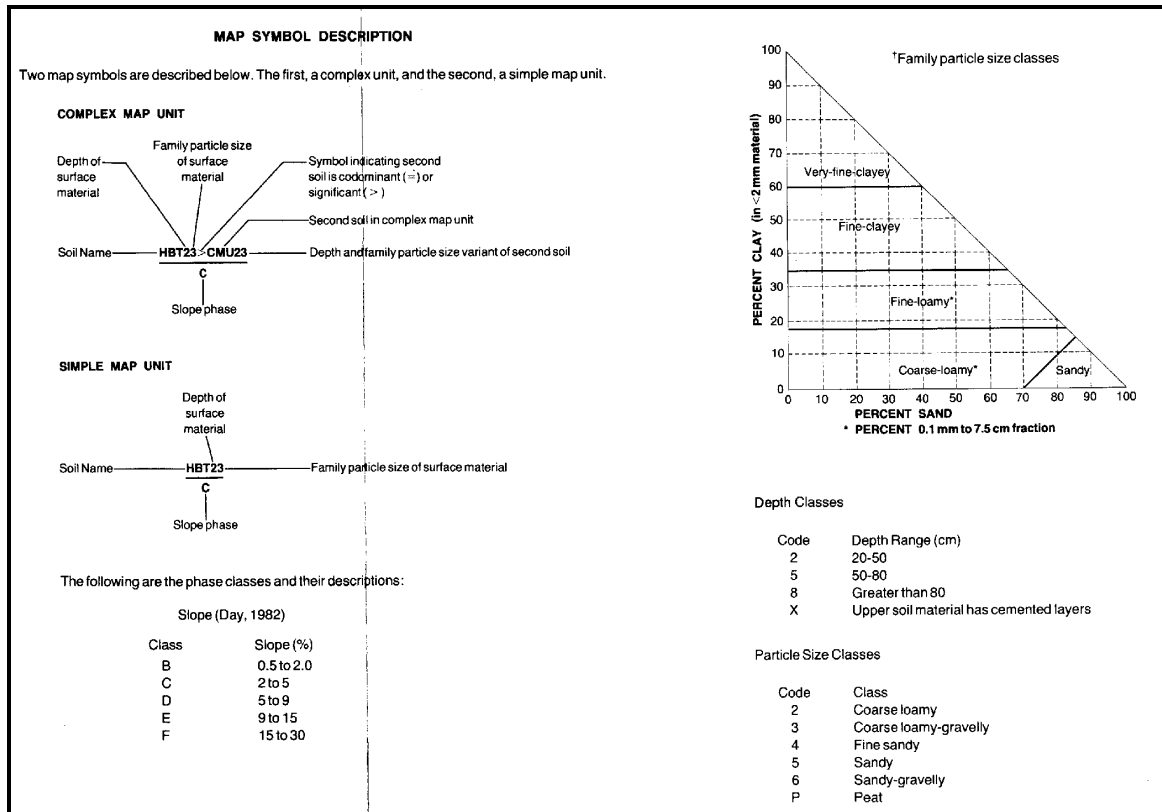


**Map Source and Scale**

# Appendix 4: Map Symbol Descriptions from Soils of the Cambridge Station Map Sheet

(21H/02-T3)

Nova Scotia Soil Survey, Report #25 (Source: Holstrom, D.A. (1988))



## Map Symbol Descriptions

# Appendix 5: Soil Type Information from Soils of the Cambridge Station Map Sheet

(21H/02-T3)

Nova Scotia Soil Survey, Report #25 (Source: Holstrom, D.A. (1988))

SOIL OR LAND TYPE SYMBOL	SOIL OR LAND TYPE NAME	DRAINAGE	LOWER SOIL MATERIAL <sup>†</sup>	SURFACE MATERIAL		MAP UNIT SYMBOL	CLI RATING
				DEPTH (CM)	PARTICLE SIZE		
BGE	Bridgeville	Imperfect	Stratified coarse loamy to sandy-skeletal alluvium	>100	Coarse loamy to sandy-skeletal	BGE/B	4w
CHW	Chaswood	Poor	Stratified coarse loamy to sandy-skeletal alluvium	>100	Coarse loamy to sandy-skeletal	CHW/B	5w
CMU	Comeau	Imperfect	Loose sandy-gravelly glacio-fluvial sediments	50-80	Coarse loamy-gravelly	CMU53/C	2c
CNW	Cornwallis	Well	Loose sandy glaciofluvial sediments	>100	Medium or coarse sand	CNW85/B, CNW85/C CNW85/D CNW85/E CNWX5/B, CNWX5/C* CNWX5/E*	3w 3wT 4T 3w 4T
DFN	Dufferin	Very poor	Mesic and humic peat	>100	Mesic and humic peat	DFN8P/B*	Not rated
DRT	Debert	Imperfect	Friable to firm coarse loamy till	20-50	Coarse loamy	DRT22/B	4w
				50-80	Coarse loamy	DRT22/C	3w
				>100	Coarse loamy	DRT52/C	2c
				>100	Coarse loamy	DRT82/B DRT82/C	3w 2c
GNH	Glenholme	Poor	Very friable fine sandy glacio-fluvial sediments	50-80 >100	Coarse loamy Fine sand	GNH52/B GNH84/B	5w 5w
HBT	Hebert	Rapid	Loose sandy-gravelly glacio-fluvial sediments	20-50	Coarse loamy-gravelly	HBT23/B, HBT23/C HBT23/D HBT23/E HBT23/F	3w 3wT 4T 5T
				50-80	Coarse loamy-gravelly	HBT53/C HBT53/D	2c 3T
				>100	Sandy-gravelly	HBT86/B, HBT86/C, HBT86/D HBT86/E	4w 4wT
				>100	Coarse loamy-gravelly	HFD83/E	4T
HFD	Hansford	Well	Friable coarse loamy-gravelly till	>100	Coarse loamy-gravelly	HFD83/E	4T
KGP	Kingsport	Imperfect	Loose sandy glaciofluvial sediments	>100	Medium or coarse sand	KGP85/B, KGP85/C	3w
KSV	Kingsville	Poor	Firm fine loamy till	20-50	Coarse loamy	KSV22/B	5w
MGA	Metaghan	Poor	Loose sandy-gravelly glacio-fluvial sediments	50-80	Coarse loamy-gravelly	MGA53/B MGA53/C	5w 3w
				>100	Medium or coarse sand	MLL85/B MLL85/C	5w 3w
MLL	Millar	Poor	Loose sandy glaciofluvial sediments	>100	Medium or coarse sand	MLL85/B MLL85/C	5w 3w
MSW	Masstown	Poor	Firm coarse loamy till	50-80	Coarse loamy	MSW52/B	5w
OSW	Onslow	Imperfect	Very friable fine sandy glacio-fluvial sediments	50-80	Coarse loamy	OSW52/B	3w
				>100	Fine sand	OSW84/B OSW84/C	3w 2c
PGW	Pugwash	Well	Friable to firm coarse loamy till	50-80	Coarse loamy	PGW52/C PGW52/E	2c 4T
				>100	Coarse loamy	PGW82/B, PGW82/D	2c 3T
QUE	Queens	Imperfect	Firm fine loamy till	20-50	Coarse loamy	QUE22/C QUE22/D	3w 3wT
				50-80	Coarse loamy	QUE52/B QUE52/C	3w 2c
				50-80	Coarse loamy	TUO52/B, TUO52/C TUO84/B, TUO84/C	2c 2c
				>100	Fine sand	TUO84/D TUO84/E	3T 4T
TUO	Truro	Well	Very friable fine sandy glacio-fluvial sediments	50-80 >100	Coarse loamy Fine sand	TUO52/B, TUO52/C TUO84/B, TUO84/C TUO84/D TUO84/E	2c 2c 3T 4T
ZGP	Gravel Pit						Not rated

## Soil Type Information

Submitted by:

Jeff Wentzell P. Ag.

Site 11, Box 11, R.R.3, Middleton NS B0S, 1P0

### 5.1.2 Potential Effects and Proposed Mitigation

The impacts of the activities associated with this project on agricultural resources have been identified and evaluated. They include.

- soil erosion by both wind and water
- soil compaction
- soil degradation

As recommended earlier in this document, to maintain the productive potential of the agriculture land at the Site, the planned procedure is to restrict excavation of sand to the Cornwallis and Hebert soil types in the northern portion of the property. To maintain and to return the soils within the proposed expanded pit footprint back to their present productive capability, the land will be sprayed with Round Up at the label rates for plant material before the Site is prepared for excavation. Topsoil will be removed and either stockpiled within the prepared pit area or used immediately in Site reclamation. Before reclamation, soil testing for compaction and nutrients will be carried out by the proponent; he in collaboration with the owner will identify appropriate methods and carry them out—the owner must first decide on the crop he wishes to grow. If soil is stockpiled, the windrows or piles will be seeded with grass seed to prevent long-term soil exposure to the elements thereby reducing risk of wind and water erosion and sedimentation. To contain runoff, an embankment of soil will be kept in place to keep runoff within the active area of the pit. After reclamation, the excavated area will be graded to have a gentle slope of 15 cm to every 30 meters to minimize the potential for soil erosion from precipitation or surface water and then prepared for timely return to agricultural production.

## 5.2 Rare and Sensitive Flora

### 5.2.1 Description of Existing Environment

On August 26, 2002, a botanical survey was performed for Lawson Bennett Trucking Ltd. The property is located south of Highway 1, Cambridge, Kings County, Nova Scotia, approximately N 45°03 ' and W 64°37 '. An aerial photograph of the study area is presented in Figure 1 (photo no. 92392-37). The survey was conducted by botanist Jim Jotcham and technician Andrew Jotcham, hiking throughout the property.

The site is being considered for potential development as a gravel pit. The site includes agricultural land, secondary forest, and an irrigation pond (see Figure 1, pp. 87). The irrigation pond was apparently created by damming a natural stream, the outflow from Tupper Lake. A special area of interest for this survey was just upstream of the irrigation pond, where there is a small open wetland meadow, probably caused by the downstream dam. A couple further ephemeral streams were also examined in the woods to the west, but they were completely dry on the date of the survey.

The agricultural land contains common weeds, and these areas were not included in the survey. A small gravel pit exists between the agricultural land on the north side of the property and the forest to the south.

The forest was found to be generally of two types, mixed secondary forest to the south (with the occasional hardwood or softwood cluster), and a small distinct white pine stand on the east side of the irrigation pond. The forest is traversed by several trails. The wider trails are similar to old field habitat, with weedy plants throughout. There is no old-growth forest.

In summary, at least eight distinct habitats were found on the property: agriculture, irrigation pond, gravel pit, wetland (meadow), ephemeral stream beds, mixed forest, white pine forest, and the stream feeding the irrigation pond.

No rare or endangered plant species were identified on the property at this time. However, another survey should be performed in the spring of 2003 to identify the spring flora missed in this study, such as the trilliums. If no rare species are then found, there should be no further floristic reasons to disallow development of a gravel pit. Any impact to the water course on the east side of the property, being a functional wetland, should be avoided. The irrigation pond itself has no emergent or aquatic vegetation. By August, the water had been drawn down away from the banks by irrigation, exposing bare mud.

An annotated list of identified plant species follows. Two lists are presented: one for the generally forested land, and one for the wetland. Names are from Roland's Flora of Nova Scotia (Zinck 1998). A list of rare species found in similar habitats near to the study site is appended in Appendix 1.

Forest habitat (including mixed forest, the white pine stand, and the field edges):

Agrimony	<i>Agrimonia striata</i> Michx.	Local
American beech	<i>Fagus grandifolia</i> Ehrh.	Occasional
Apple	<i>Pyrus malus</i> L.	Local
Balsam-fir	<i>Abies balsamea</i> (L.) Mill	Common
Beech-drops	<i>Epifagus virginiana</i> (L.) Bart.	Occasional
Bittersweet	<i>Solanum dulcamara</i> L.	Occasional
Bracken	<i>Pteridium aquilinum</i> (L.) Kuhn	Common
Bunchberry	<i>Cornus canadensis</i> L.	Common
Bush-honeysuckle	<i>Diervilla lonicera</i> P. Mill.	Local
Butter-and-eggs	<i>Linaria vulgaris</i> P. Mill.	Occasional
Canada goldenrod	<i>Solidago canadensis</i> L.	Occasional
Choke-cherry	<i>Prunus virginiana</i> L.	Occasional
Christmas fern	<i>Polystichum acrostichoides</i> (Michx.) Schott.	Local
Clintonia lily	<i>Clintonia borealis</i> (Aiton) Raf.	Common
Common bedstraw	<i>Galium palustre</i> L.	Local, bank of dried stream
Common blackberry	<i>Rubus allegheniensis</i> Porter	Occasional
Common burdock	<i>Arctium minus</i> (Hill.) Bernh.	Local
Common juniper	<i>Juniperus communis</i> L.	Occasional
Common milkweed	<i>Asclepias syriaca</i> L.	Local
Common mullein	<i>Verbascum thapsus</i> L.	Local
Common plantain	<i>Plantago major</i> L.	Occasional
Common ragweed	<i>Ambrosia artemisiifolia</i> L.	Occasional
Common speedwell	<i>Veronica officinalis</i> L.	Occasional
Common St. John's-wort	<i>Hypericum perforatum</i> L.	Occasional
Common wild rose	<i>Rosa virginiana</i> Mill.	Occasional
Dandelion	<i>Taraxacum officinale</i> Weber	Common
Dewberry	<i>Rubus hispidus</i> L.	Occasional
Downy alder	<i>Alnus viridis</i> (Villars) Lam.	Occasional, bank of dried stream
Eastern hemlock	<i>Tsuga canadensis</i> (L.) Carr.	Occasional, bank of dried stream
Evening primrose	<i>Oenothera biennis</i> L.	Occasional
Hawthorn	<i>Crataegus</i> sp.	Local
Hazelnut	<i>Corylus cornuta</i> Marshall	Local
Heal-all	<i>Prunella vulgaris</i> L.	Occasional
Hemp-nettle	<i>Galeopsis tetrahit</i> L.	Occasional
Hobble-bush	<i>Viburnum alnifolium</i> Marsh.	Solitary
Interrupted fern	<i>Osmunda claytoniana</i> L.	Occasional
Lamb's quarters	<i>Chenopodium album</i> L.	Occasional

Large-toothed aspen	<i>Populus grandidentata</i> Michx.	Occasional
Lion's-paw	<i>Prenanthes trifoliolata</i> (Cass.) Fern.	Local
Lowbush blueberry	<i>Vaccinium angustifolium</i> Ait.	Common
Low cudweed	<i>Gnaphalium uliginosum</i> L.	Occasional
Meadow-rue	<i>Thalictrum pubescens</i> Pursh	Occasional
Mouse-eared hawkweed	<i>Hieracium pilosella</i> L.	Locally common
Narrow-leaved goldenrod	<i>Euthamia graminifolia</i> (L.) Nutt.	Locally common
Narrow-leaved plantain	<i>Plantago lanceolata</i> L.	Occasional
New York fern	<i>Thelypteris noveboracensis</i> (L.) Nieuwl.	Locally common
Old-field goldenrod	<i>Solidago nemoralis</i> Ait.	Locally common
Orchard grass	<i>Dactylis glomerata</i> L.	Occasional
Paper birch	<i>Betula papyrifera</i> Marshall	Occasional
Partridge-berry	<i>Mitchella repens</i> L.	Locally common
Pearly everlasting	<i>Anaphalis margaritacea</i> (L.) Benth. & Hook.	Locally common
Pin-cherry	<i>Prunus pensylvanica</i> L.	Occasional
Pussy willow	<i>Salix discolor</i> Muhl.	Local
Red-berried elder	<i>Sambucus racemosa</i> L.	Local
Red clover	<i>Trifolium pratense</i> L.	Locally common
Red maple	<i>Acer rubrum</i> L.	Common
Red oak	<i>Quercus rubra</i> L.	Occasional
Red pine	<i>Pinus resinosa</i> Ait.	Local
Red raspberry	<i>Rubus idaeus</i> L.	Common
Rosy twisted stalk	<i>Streptopus roseus</i> Michx.	Local
Sedge	<i>Carex crinita</i> Lam.	Local, by dried stream
Sensitive fern	<i>Onoclea sensibilis</i> L.	Locally common
Small white aster	<i>Aster lateriflorus</i> (L.) Britt.	Occasional
Soft rush	<i>Juncus effuses</i> L.	Local
Speckled alder	<i>Alnus incana</i> (L.) Moench	Occasional
Spinulose wood fern	<i>Dryopteris carthusiana</i> (Vill.) Fuchs	Local
Spreading dogbane	<i>Apocynum androsaemifolium</i> L.	Locally common
Star-flower	<i>Trientalis borealis</i> Raf.	Occasional
Strawberry	<i>Fragaria virginiana</i> Duchesne	Common
Striped maple	<i>Acer pensylvanicum</i> L.	Occasional
Sugar maple	<i>Acer saccharum</i> Marsh.	Occasional
Sweetfern	<i>Comptonia peregrina</i> (L.) Coult.	Locally common
Tall buttercup	<i>Ranunculus acris</i> L.	Local
Teaberry	<i>Gaultheria procumbens</i> L.	Occasional
Timothy	<i>Phleum pratense</i> L.	Locally common
Trembling aspen	<i>Populus tremuloides</i> Michx.	Common
Tufted vetch	<i>Vicia cracca</i> L.	Local
White ash	<i>Fraxinus americana</i> L.	Local
White goldenrod	<i>Solidago bicolor</i> L.	Locally common
White pine	<i>Pinus strobus</i> L.	Locally abundant
White spruce	<i>Picea glauca</i> (Moench) Voss	Common
Wild carrot	<i>Daucus carota</i> L.	Local
Wild lily-of-the-valley	<i>Maianthemum canadense</i> Desf.	Occasional

Wild sarsaparilla	Aralia nudicaulis L.	Occasional
Wire birch	Betula populifolia Marshall	Occasional
Wood aster	Aster acuminatus Michx.	Local
Yarrow	Achillea millefolium L.	Local

Wetland habitat (south of the irrigation pond):

Common oak fern	Gymnocarpium dryopteris (L.) Newm.	Local
Bulrush	Scirpus cyperinus (L.) Kunth.	Occasional
Common beggar's-ticks	Bidens frondosa L.	Local
Curled dock	Rumex crispus L.	Local
Field-horsetail	Equisetum arvense L.	Locally common
Jack-in-the-pulpit	Arisaema triphyllum (L.) Schott	Local
Loosestrife	Lysimachia terrestris (L.) BSP	Locally common
Field mint	Mentha arvensis L.	Occasional
Reed canary grass	Phalaris arundinacea L.	Locally common
Rice-cutgrass	Leersia oryzoides (L.) Sw.	Local
Sedge	Carex lurida Wahlenb.	Occasional
Sedge	Carex scoparia Schkuhr	Occasional
Staghorn sumach	Rhus typhina L.	Local
Tear-thumb	Polygonum persicaria L.	Local
Three-way sedge	Dulichium arundinaceum (L.) Britt.	Locally common
Trillium	Trillium sp.	Local
Bog willow-herb	Epilobium leptophyllum Raf.	Solitary
Water-horehound	Lycopus americanus Muhl.	Local
Witch-hazel	Hamamelis virginiana L.	Solitary



## Appendix 1

Rare plant species and their habitats as indicated in the Atlas of Rareascular Plants in Nova Scotia (Pronych and Wilson, 1993). None of these rare species were identified during the survey, but have historical records as existing nearby (e.g. Kings & eastern Annapolis Counties) in similar habitats. Two of these rare species have national status. Argus & Pryer (1990) gave Priority 3 status to *Juncus secundus* and *Spiranthes ochroleuca*.

*Carex hystrix* - woods by rivers, gullies in alder thickets  
*Caulophyllum thalictroides* - ash thickets along rivers  
*Cyanoglossum boreale* - woods & thickets  
*Cypripedium calceolus* var. *parviflorum* - mossy stream banks, meadows  
*Desmodium glutinosum* - wood roads  
*Floerka proserpinacoides* - rich meadows/woods, brook banks  
*Goodyera repens* var. *ophioides* - sandy soil of spruce/fir woods  
*Helianthemum canadense* - dry clearings, borders of dry mixed woods  
*Juncus secundus* - ditches, clearings (Canadian Priority 3)  
*Lilium canadense* - meadows, roadsides, stream edges  
*Lindernia dubia* - muddy/gravel shorelines, stream edges, damp gravel pits  
*Polygala sanguinea* - poor/acid fields, open woods/bush, sandy soil  
*Polygonum pensylvanicum* var. *pensylvanicum* - among grasses in waste grounds  
*Pyrola minor* - mature coniferous woods  
*Rumex mexicanus* - gravel at end of dams  
*Scrophularia lanceolata* - open woods, dry thickets  
*Spiranthes lucida* - sandy/rocky pastures  
*Spiranthes ochroleuca* - uplands (Canadian Priority 3)  
*Trillium erectum* - paths in mixed woods  
*Vaccinium caespitosum* - old pasture, old clearings, roadsides  
*Vaccinium ovalifolium* - shrub under open forest, slopes  
*Verbena hastata* - shorelines of brooks/reservoirs

### Literature cited:

Argus, G.W. and K.M. Pryer, 1990. Rare Vascular Plants in Nova Scotia. Canadian Museum of Nature

Pronych and Wilson, 1993 Atlas of Rare Vascular Plants in Nova Scotia. Nova Scotia Museum.

Zinck, M., 1998. Roland's Flora of Nova Scotia. Nimbus Publishing and Nova Scotia Museum.

### Submitted by:

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## 5.2.2 Spring Floral Survey

### Introduction

One June 7<sup>th</sup>, 2003 a botanical survey was conducted on a property located south of Highway 1, Cambridge, Kings County, Nova Scotia. Lawson Bennett Trucking Ltd is considering one section of the area surveyed for development as a gravel pit. The proposed pit represents an expansion of an existing gravel pit.

This survey follows up a late summer survey conducted on August 26<sup>th</sup>, 2002 by botanist, Jim Jotcham of Marbicon Inc. (Jotcham, 2002). In his report, Jotcham (2002) recommended a spring survey be conducted in order to identify spring flora that may have been missed in the late summer survey.

Areas or habitats surveyed on June 7<sup>th</sup>, 2003 include a mixed, secondary woodland located immediately south of the existing gravel pit (Habitat 1), the wooded floodplain of a stream (Habitat 2) and an irrigation pond (Habitat 3) located northeast of the previous habitat and a pine woodland (Habitat 4) located adjacent to and east of the irrigation pond. The habitats surveyed are indicated in Figure 1. The mixed woodland represents the area where the actual pit expansion will occur. Locations of significant plant species were documented with a Garmin 12 GPS unit.

### Results

The following species lists represent *additional* plant species found on the property designated for development, to those listed in the report for the late summer survey (Jotcham, 2002).

Plant list for woodland or forest habitats. These include the mixed, secondary woodland located immediately south of the existing gravel pit and the small pine stand located on the east side of the irrigation ponds. Numbers 1 and 4 in Figure 1 indicate the location of these habitats.

Latin Name	Common Name	Comments
<i>Actaea alba</i>	White Baneberry	
<i>Amelanchier sp.</i>	a shadbush	
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	
<i>Aster macrophyllus</i>	Large-leaved Aster	
<i>Aster umbellatus</i>	Tall White Aster	
<i>Athyrium filix-femina</i>	Lady Fern	
<i>Carex arctata</i>	Drooping Woodland Sedge	
<i>Carex c.f. communis</i>	Fibrous-root Sedge	

Latin Name	Common Name	Comments
<i>Carex deweyana</i>	Dewey's Sedge	
<i>Carex leptoneurva</i>	Ribless Woodland Sedge	
<i>Carex novae-angliae</i>	New England Sedge	
<i>Chimaphila umbellata</i>	Princes'-pine	
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	
<i>Danthonia spicata</i>	Poverty Grass	
<i>Epigaea repens</i>	Mayflower	
<i>Geum sp.</i>	an avens	
<i>Linnaea borealis</i>	Twinflower	
<i>Lonicera canadensis</i>	Fly-honeysuckle	
<i>Luzula multiflora</i>	Common Woodrush	
<i>Lycopodium obscurum s.l.</i>	Ground-pine	
<i>Melampyrum lineare</i>	Cow-wheat	
<i>Mitchella repens</i>	Partridge-berry	
<i>Monotropa hypopithys</i>	Pine-sap	
<i>Oryzopsis asperifolia</i>	Rice-grass	
<i>Platanthera hookeri</i>	Hooker's Orchid	One patch of Hooker's Orchid was found in the mixed woodland located south of the existing gravel pit (habitat 1 in Figure 1); 12 plants in total were present: 3 flowering, 9 vegetative; UTM coordinates for this population: 4988842N, 373059E, NAD 83
<i>Poa pratensis</i>	Kentucky Bluegrass	
<i>Prunus serotina</i>	Wild Black Cherry	
<i>Pyrola elliptica</i>	Shinleaf	
<i>Pyrola cf secunda</i>	One-sided Wintergreen	
<i>Smilacina racemosa</i>	False Solomon's Seal	
<i>Solidago rugosa</i>	Rough Goldenrod	
<i>Trillium erectum</i>	Purple Trillium	Total of 20-30 plants found in 4 separate patches in the mixed woodland south of the existing pit (habitat 1 in Figure 1); one plant was in flower, the remaining were vegetative; UTM coordinates for locations of Purple Trillium on the proposed development site are: 4988767N, 373000E NAD 83 4988656N, 373204E

Latin Name	Common Name	Comments
		4988742N, 372996E 4988686N, 373195E
<i>Vaccinium myrtilloides</i>	Velvet-leaf Blueberry	
<i>Viburnum nudum</i> var. <i>cassinoides</i>	Wild Raisin	

Plant list for brook floodplain, brook and irrigation pond edges.\*

Latin Name	Common Name
<i>Abies balsamea</i>	Balsam Fir
<i>Acer rubrum</i>	Red Maple
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit
<i>Betula lutea</i>	Yellow Birch
<i>Carex intumescens</i>	Bladder Sedge
<i>Circaea lutetiana</i>	Large Enchanter's Nightshade
<i>Impatiens capensis</i>	Spotted Touch-me-not
<i>Lysimachia terrestris</i>	Swamp Candle
<i>Matteucia struthiopteris</i>	Ostrich Fern
<i>Onoclea sensibilis</i>	Sensitive Fern
<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Sium suave</i>	Water-parsnip
<i>Thelypteris noveboracensis</i>	New York Fern
<i>Tsuga canadensis</i>	Eastern Hemlock

\*A number of vegetative, riparian grasses were also present.

The irrigation pond has little aquatic or emergent vegetation.

Two plant species with some conservation concern were located on the site. Both of these were located in the mixed woodland habitat situated immediately south of the existing gravel pit.

Purple Trillium (*Trillium erectum*) was found at four different locations in the mixed, secondary woodland to the south of the existing gravel pit (see plant list for map coordinates for each clump of plants). Plant numbers at each location ranged from 1 – 15. All plants observed but one, were vegetative. The single flowering plant found is shown in Figure 2. Although Purple Trillium is ranked as a *green* species (i.e., a species not believed to be sensitive or at risk) on the Nova Scotia Department of Natural Resources general status of Nova Scotia wildlife website, The Atlantic Canada Conservation Data Centre (ACCDC) in Sackville, New Brunswick, gives this species a provincial (i.e., sub-national) rank of S3. S3 indicates a species that is uncommon throughout its range in the province, or found only in a restricted range, even if abundant in some locations (21 to 100 occurrences.). The ACCDC tracks those species with ranks ranging from S1 (extremely rare) to S3 (uncommon). Purple Trillium is relatively common in Kings

County, Nova Scotia but uncommon to absent elsewhere in the province (Roland, 1998). This species was considered rare in Nova Scotia by Pronych & Wilson (1993).

A small population of Hooker's Orchid (*Platanthera hookeri*) was discovered in the mixed woodland near its north edge, very close to the existing gravel pit. 12 plants were present in a small area, three with flowering stalks (Figure 3). Like the Purple Trillium, this species is ranked on the Nova Scotia government website as a *green* species and listed on the ACCDC website as an S3 species. Hooker's Orchid occurs in southwestern Nova Scotia and in the extreme northern tip of Cape Breton (Munden, 2001; Roland, 1998).

Although the above two species, i.e., Purple Trillium and Hooker's Orchid, are uncommon in Nova Scotia as suggested by their ACCDC rank, neither of these two species is considered to be currently sensitive or at risk (Nova Scotia Department of Natural Resources general status of Nova Scotia wildlife website). It is likely that the current clear-cutting in the mixed woodland will have a negative impact on both of these species.

No other species of conservation concern were observed in any of the habitats visited.

#### Recommendations

1. As recommended in the late summer plant survey report (Jotcham, 2002), impact on the wooded stream on the east side of the property should be minimized and effective setbacks established
2. It is recommended that some of botanical gardens in the province be offered an opportunity to remove and propagate plant species of interest if the expansion of the pit is approved

## References

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## Websites

Atlantic Canada Conservation Data Centre (<http://www.accdc.com/>)

Nova Scotia Department of Natural Resources Wildlife General Status Ranks (<http://www.gov.ns.ca/natr/wildlife/genstatus/ranks.asp>)



Figure 1. Lawson Bennett Trucking Ltd. Pit. Area 1 in the air photo, represents mixed secondary woodland. This is the site of the proposed pit expansion. Area 2 represents the location of a wooded floodplain and stream. Area 3 represents the irrigation pond. Area 4 represents the small, pine stand that was surveyed.

