ENVIRONMENTAL IMPACT STATEMENT ADDENDUM

Playvalue Toys, 130 David Manchester Road, Carp, ON

Project No.: CCO-21-0619

Prepared for:

Doug Jones
Playvalue Toys
130 David Manchester Road,
Carp, ON
K0A 1L0

Prepared by:

McIntosh Perry Consulting Engineers Ltd.
115 Walgreen Road, R.R.3
Carp, Ontario
K0A 1L0

McINTOSH PERRY

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1.0 PROPERTY INFORMATION AND INTRODUCTION

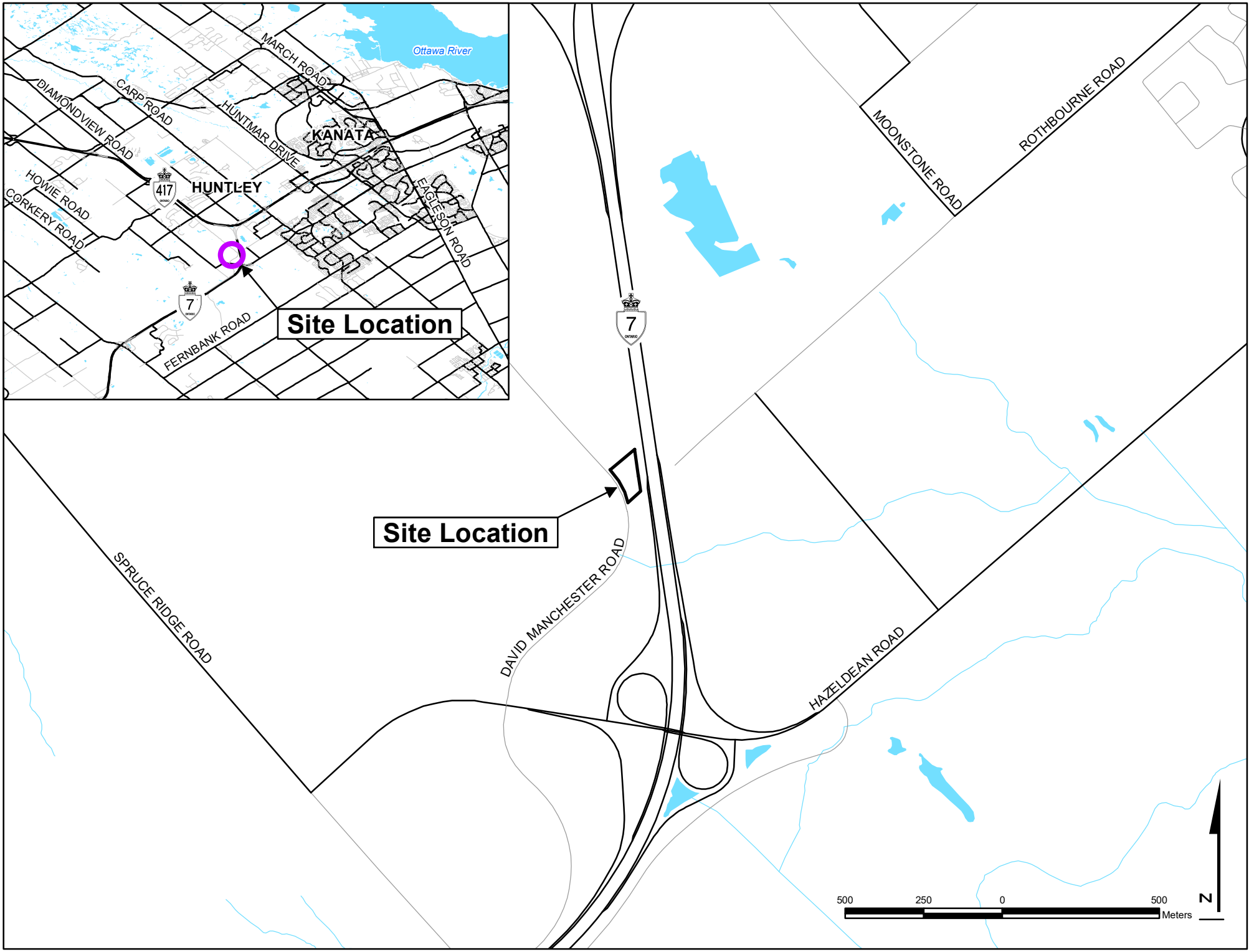
The subject property for this *Environmental Impact Statement (EIS) Addendum* is a 1.64 ha parcel of land located at 130 David Manchester Road, Property Identification Number 045361345, 045360744, 045360742, and is legally known as Part Lot 1, Concession 4, Huntley Township, City of Ottawa. The subject property is located within the west end of the City of Ottawa near the town of Stittsville owned by Playvalue Toys (**Figure 1**).

The current planning designation of the property in the *City of Ottawa Official Plan* (City of Ottawa, 2003) is 'Rural Natural Features Area' and the zoning is Rural General Industrial (RG). The north end of the subject property is currently developed as a commercial space and the south end is undeveloped.

The subject property is located within the jurisdiction of the Ministry of Natural Resources and Forestry's (MNRF) - Kemptville District and the Ministry of Environment, Conservation and Park's (MECP) – Ottawa District. This EIS focuses on the undeveloped parcel of land south of the existing commercial space within the subject property. The existing commercial space will not be included as part of the study area and will be considered adjacent lands. Information on the development of the north end of the subject property can be found in the *Environmental Impact Statement* prepared by McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) in 2012. This addendum will supplement the 2012 report and focus on the remaining undeveloped land in the south end of the subject property.

Due to the subject property's designation as 'Rural Natural Features Area', the City of Ottawa requires an addendum to the 2012 EIS for the proposed development of the south end of the subject property, as outlined in the *Environmental Impact Statement Guidelines* (City of Ottawa, 2015a). This EIS addendum report assesses the potential impacts that the development of a new warehouse may have upon the existing woodlands, including Significant Woodlands, species at risk (SAR), and their habitat.

McIntosh Perry was retained by Playvalue Toys to carry out an EIS addendum to assess the existing natural features. This EIS addendum summarizes the findings of the field investigation, outlines potential impacts as a result of the proposed development, and provides recommendations in order to mitigate anticipated impacts on natural features. The information contained in this report represents a field investigation undertaken in the summer of 2020 and does not represent year-round data.


Ottawa River
MARCH ROAD
CARP ROAD
DIAMONDVIEW ROAD
HUNTMAR DRIVE
KANATA
HOWIE ROAD
CORKERY ROAD
417
HUNTLEY
EAGLESON ROAD
7
FERNBANK ROAD
Site Location
MOONSTONE ROAD
ROTHBOURNE ROAD
7
Site Location
SPRUCE RIDGE ROAD
DAVID MANCHESTER ROAD
HAZELDEAN ROAD
500
250
0
500
Meters
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2.0 METHODOLOGY

In order to acquire information on habitat present within and adjacent to the area of the proposed development, a field investigation was carried out on June 25, 2020 by E. Pohanka of McIntosh Perry (**Table 1**). The field investigation was carried out on the subject property (130 David Manchester Road), within the undeveloped area. The area surveyed will be hereafter referred to in this report as the "study area." The field investigation was conducted to provide an inventory and assessment of the natural heritage features of the study area. The field investigation included the identification of the following features within the study area:

- Existing vegetation communities;
- Significant woody vegetation;
- Areas of critical or significant habitat (i.e., Significant Valleylands, Significant Woodlands, Significant Wildlife Habitat, Provincially Significant Woodland's (PSWs), etc.);
- Soil types;
- Areas of groundwater recharge and discharge, drainage patterns, watercourses, wetland habitat, other areas of surface water;
- SAR and their habitat, and
- Resident or migratory birds and other wildlife species.

Table 1 outlines activities carried out within the study area during the field investigation.

Table 1: Summary of Field Investigation Activities

Date	Personnel Involved	Weather Conditions	Purpose of Visit
June 25, 2020	E. Pohanka	18 °C, overcast, low wind	Existing environmental conditions survey (including identification of vegetation and wildlife species present and determining vegetation community boundaries) and species at risk habitat screening.

The vegetation communities observed within the study area were characterized using the Ecological Land Classification (ELC) protocol (Lee et al., 1998), and delineated on an aerial photograph. During the field investigation, observations of wildlife species were made through sight, sound, and physical evidence.

Photographs were taken during the field investigation depicting vegetation communities and natural heritage features observed within the study area. This photographic record can be found in **Appendix A** of this report (**Photos 1 – 13**).

Background information on wildlife and plant species, and other significant natural heritage features known to occur within or adjacent to the study area was obtained from the following sources:

- The Natural Heritage Information Centre (NHIC) database accessed via the MNRF's Make a Map: Natural Heritage Areas (MNRF, 2020a). This search tool allows areas to be searched at up to 1 km^2 grid resolution and provides reports concerning rare species tracked by the NHIC. Information for each 1 km^2 square within the study area was reviewed for occurrences of rare species tracked by NHIC;

- The MNRF's Land Information Ontario (LIO) Metadata Management Tool (2020b). This tool contains information (e.g., location of PSW's, SAR element occurrences, etc.) licensed under the Open Government Licence for Ontario;
- Data from the Ontario Breeding Bird Atlas Database (OBBA) (Bird Studies Canada, 2006) was accessed from the data summaries page of the Atlas of the Breeding Birds of Ontario website. Information for each 10 km^2 grid square was reviewed for the study area;
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020) was accessed for the data summaries. Information for each 10 km^2 grid square was reviewed for the study area;
- Information from the *Poole Creek: Macro Stream Assessment Report* by Mississippi Valley Conservation Authority (MVCA) (2009);
- Background information for the study area was obtained through the *Environmental Impact Statement* prepared by McIntosh Perry in 2012;
- Habitat in the study area was evaluated by use of aerial photography accessed through Google Earth aerials and StreetView mapping (Maxar Technologies, 2020), and
- Vascular Plants of the City of Ottawa, with the Identification of Significant Species (Brunton, 2005).

3.0 DESCRIPTION OF THE SITE AND THE NATURAL ENVIRONMENT

3.1 Existing Land Use

At the time of the field investigation, the study area was undeveloped (**Photos 1 - 13**). The study area consists of a vegetated area in successional stages.

Schedule L3 Natural Heritage System Overlay, of the *City of Ottawa Official Plan* (2003), does not identify 'Natural Heritage System Features' within the study area as defined under the *Provincial Policy Statement*, 2014 (PPS). However, the study area is designated as 'Rural Natural Features Area'. Land uses adjacent to the subject property include the existing commercial property to the north (i.e. retail store), transportation infrastructure directly to the east and west, and natural areas to the south and further west.

3.2 Natural Heritage System Components

The following background information was collected from various sources (refer to Section 2.0 of this report):

- According to the NHIC mapping reviewed, the following natural features have been identified within the vicinity of the study area:
  - Goulbourn Wetland Complex, a PSW;
  - Rothbourne Road natural area;
  - West Queensway Wetland Complex (now part of the Goulbourn Wetland Complex);
- LIO data from the MNRF identified the following natural features have been identified within 2 km of the study area:
  - Goulbourn Wetland Complex (PSW);
  - Unevaluated wetlands in natural areas west of David Manchester Road, east of Highway 7, and approximately 160 m south of the study area.

The PPS defines Significant Wetlands as "…an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province…" (PPS, 2014). The *City of Ottawa's Official Plan* (2003), identifies wetlands as "…essential components of ecosystems that contribute to the high quality of the environment in Ottawa. Wetlands control and store surface water to assist in flood control, act as sediment traps to improve water quality, and provide habitat for a wide variety of plant and animal species and may serve as recharge areas for groundwater resources". The Goulbourn Wetland Complex was identified within approximately 225 m southeast of the study area based on NHIC and LIO data.

The PPS defines a Significant Woodland as "…an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area…". The City of Ottawa *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment* (2016) refers to the *Natural Heritage Reference Manual* (MNRF, 2010), to define Significant Woodlands using certain criteria and sub-criteria.

All wooded vegetation communities within the study area (refer to Section 3.5 of this report for information on

vegetation communities present within the study area), were not considered to be Significant Woodland based on the City of Ottawa *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment* (2016).

3.3 Landforms, Soils and Geology

The physiography of the study area is within the glaciomarine deposit. The bedrock geology of the study area consists of limestone, dolostone, sandstone, and shale of the Ottawa Group, Simcoe Group, and Shadow Lake Formation (Ontario Geological Survey, 2010). According to the *Soils of the Regional Municipality of Ottawa-Carleton* (Canada Department of Agriculture, 1987), soils present within the study area included neutral to medium acid fine sand or loamy sand, on nearly level slopes with good to poor drainage.

3.4 Surface Water, Groundwater, and Fish Habitat

The property is located within the Poole Creek Subwatershed of the Mississippi Valley Watershed managed by the MVCA (2009). No water features within 30 m of the study are were identified through background information or field investigation. No fish habitat is present within the or adjacent to the study area.

During the field investigation, the soils were observed to have moderately poor drainage as was evident with the damp soils present in the middle of the study area. A wet swale was present through the wooded area which connected to a drain under Highway 7 at the east boundary and a drain under David Manchester Road at the west boundary. No surface water was observed.

No well records were identified within the study area. A total of five (5) wells are located within 500 m of the study area. The well depths range from 3.6. m to 91.4 m. The well uses range from domestic water supply (3), public water supply (1), and unknown (1).

3.5 Vegetation Cover

A summer vegetation survey was completed on June 25, 2020 by McIntosh Perry staff. Habitat observed during the field investigation included three (3) vegetation communities. These vegetation communities were later used to describe 'tree inventory zones' defined by E&S Tree Experts in the *Tree Conservation Report* (2021). Four (4) tree inventory zones were outlined in the study area based on spatial groupings of trees and distinctive vegetation communities. The following section outlines the existing vegetation communities identified within the study area. Photographs of the vegetation communities can be found in **Appendix A**. No nationally, provincially or regionally rare or SAR plant species were observed during the June 25, 2020 field investigation. No rare vegetation communities were observed.

3.5.1 Vegetation Community 1: Dry-Fresh Forb Meadow (MEFM1)

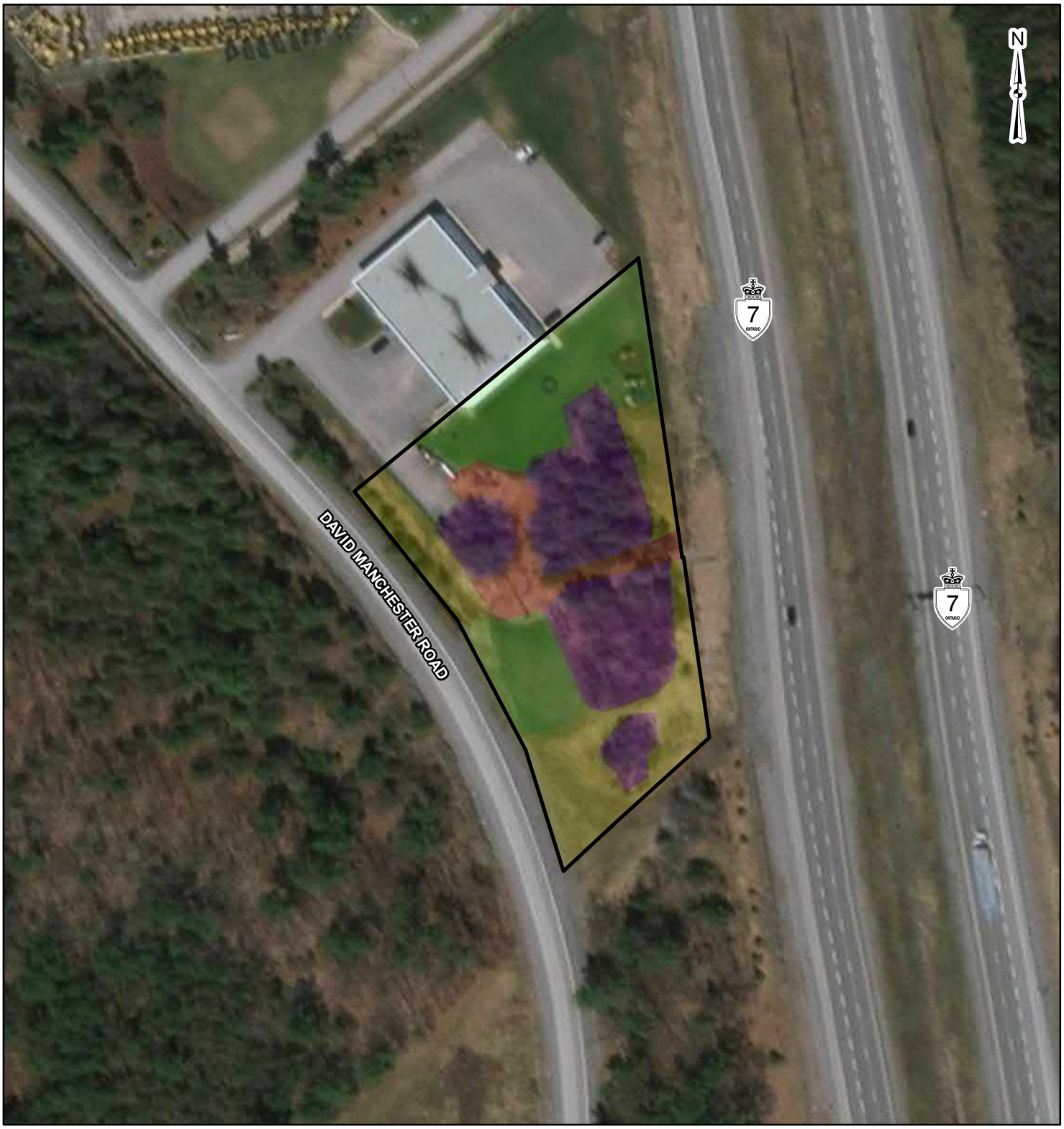
Vegetation Community 1 was classified through ELC as a Dry-Fresh Forb Meadow (MEFM1) (**Photos 3 and 8**). This community lacked significant woody vegetation. It was previously cleared and is considered a disturbed area with herbaceous growth regenerating the area. The dominant species included grass (Poaceae spp.), common milkweed (*Asclepias syriaca*), and common non-native plants. The northwest end of this community is maintained by mowing (**Photo 8**). This community was present along the west, south, and east boundaries of the study area.

3.5.2 Vegetation Community 2: Fresh-Moist White Cedar-Hardwood Mixed Woodland (WOMM4-1)

Vegetation Community 2 was classified through ELC as a Fresh-Moist White Cedar-Hardwood Mixed Woodland (WOMM4-1) (**Photos 1, 3, 4, 7, 10**). This community occupies the majority of the study area and is located in the middle of the study area. Tree inventory zones 1, 2, and 3 consist of this vegetation community. The canopy of this community consisted of a mix of mature eastern white-cedar (*Thuja occidentalis*), white ash (*Fraxinus americana*), and eastern white pine (*Pinus strobus*). Understory species was dominated by glossy buckthorn (*Frangula alnus*). The narrow stand of mature trees contained in this community most likely represents mature forest that was previously present throughout the surrounding lands prior to clearing. Based on Google Earth (Maxar Technologies, 2020) satellite imagery, this community was intact as early as 2004.

3.5.3 Vegetation Community 3: Fresh-Moist Graminoid Meadow (MEGM4)

Vegetation Community 3 was classified through ELC as a Fresh-Moist Graminoid Meadow (MEGM2) (**Photos 3 - 5**). This community consisted of a swale with damp soils that cut through the Fresh-Moist White Cedar-Hardwood Woodland community in a west-east orientation. This swale linked drains under David Manchester Road and Highway 7. The swale also stretched northwards to the northern boundary of the study area. The swale consisted of vegetation dominated by grasses and broad-leaved cattail (*Typha latifolia*). For a detailed map of vegetation communities present within the study area, refer to **Figure 2**. Refer to **Table 2** for a complete listing of species observed within the study area.



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LEGEND

- Study Area
- Dry-Fresh Forb Meadow (MEFM1)
- Fresh-Moist Graminoid Meadow (MEGM4) - Swale
- Fresh-Moist White Cedar-Hardwood Mixed Woodland (WOMM4-1)
- Mown Lawn

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2020.

CLIENT: DOUG JONES PLAYVALUE TOYS

PROJECT: ENVIRONMENTAL IMPACT STATEMENT

TITLE: NATURAL FEATURES MAP

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

PROJECT NO:	PCO-21-0619
Date	Aug., 17, 2020
GIS	EU
Checked By	EP

FIGURE: 2

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Table 2: Vegetation Species Observed within the Study Area					
Common Name	**Scientific Name**	**Status According to Brunton (2005)**	**Common Name**	**Scientific Name**	**Status According to Brunton (2005)**
Tree Species					
balsam fir	*Abies balsamea*	Common	tamarack	*Larix laricina*	Common
eastern white pine	*Pinus strobus*	Common	trembling aspen	*Populus tremuloides*	Common
eastern white-cedar	*Thuja occidentalis*	Common	white ash	*Fraxinus americana*	Common
paper birch	*Betula papyrifera*	Common	white elm	*Ulmus americana*	Common
red oak	*Quercus rubra*	Common	white spruce	*Picea glauca*	Common
Shrub Species					
black raspberry	*Rubus occidentalis*	Uncommon	riverbank grape	*Vitis riparia*	Common
choke cherry	*Prunus virginiana*	Common	shrub willow	*Salix* spp.	N/A
common blackberry	*Rubus allegheniensis*	Common	silky dogwood	*Cornus amomum*	Uncommon
common buckthorn	*Rhamnus cathartica*	Common (aggressive invasive)	smooth wild rose	*Rosa blanda*	Common
common juniper	*Juniperus communis*	Common	staghorn sumac	*Rhus typhina*	Common
common prickly gooseberry	*Ribes cynosbati*	Common	western poison-ivy	*Toxicodendron rydbergii*	Common
glossy buckthorn	*Rhamnus frangula*	Common (aggressive invasive)	wild black currant	*Ribes americanum*	Common
honeysuckle	*Lonicera sp.*	N/A	wild red raspberry	*Rubus strigosus*	Common
purple-flowering raspberry	*Rubus odoratus*	Common			
Herbaceous Species					
bedstraw	*Galium sp.*	N/A	goldenrod	*Solidago spp.*	N/A
bird's-foot trefoil	*Lotus corniculatus*	Common	greater burdock	*Arctium minus*	Common
bladder campion	*Silene vulgaris*	Common	narrow-leaved cattail	*Typha angustifolia*	Common
broad-leaved cattail	*Typha latifolia*	Common	ox-eye daisy	*Leucanthemum vulgare*	Common
bull thistle	*Cirsium vulgare*	Common	Philadelphia fleabane	*Erigeron philadelphicus*	Common
Canada thistle	*Cirsium arvense*	Common	phragmites	*Phragmites australis australis*	Uncommon (locally abundant adventive)
coltsfoot	*Tussilago farfara*	Uncommon (spreading common)	Queen Anne's lace	*Daucus carota*	Common
common milkweed	*Asclepias syriaca*	Common	reed canary grass	*Phalaris arundinacea*	Common (locally abundant introduction)
common mugwort	*Artemisia vulgaris*	Common	sedge	*Carex* spp.	N/A
common mullein	*Verbascum thapsus*	Common	smooth brome grass	*Bromus inermis*	Common
common yarrow	*Achillea millefolium*	Common	spikerush	*Eleocharis* spp.	N/A
cow vetch	*Vicia cracca*	Common	spreading dogbane	*Apocynum androsaemifolium*	Common
crown vetch	*Securigera varia*	N/A	tall buttercup	*Ranunculus acris*	Common (invasive)

Table 2: Vegetation Species Observed within the Study Area					
Common Name	**Scientific Name**	**Status According to Brunton (2005)**	**Common Name**	**Scientific Name**	**Status According to Brunton (2005)**
curly dock	*Rumex crispus*	Common	Viper's bugloss	*Echium vulgare*	Common
fern	Polypodiopsida	N/A	white clover	*Trifolium repens*	Common
field horsetail	*Equisetum arvense*	Common	wild columbine	*Aguilegia canadensis*	Common
goat's-beard	*Tragopogon dubius*	Common	wild lettuce	*Lactuca virosa*	N/A

3.6 Habitat for Species at Risk & Significant Wildlife Habitat

Background information obtained from the sources listed in Section 2.0 of this report, indicated that SAR and their habitat were potentially present within and adjacent to the study area. These species have been listed in **Table 3**. Given habitat observed during the field investigation and direct observation of SAR, a determination was made as to whether these species had the potential to be or were present within the study area (**Table 3**).

Table 3: Species at Risk Potentially or Confirmed to be Present within the Study Area

*Common Name	Scientific Name	Provincial Status (ESA, 2007)	Federal Status (SARA Schedule 1)	Potential/Unconfirmed or Confirmed Habitat Present within Property Boundaries
Plants				
Butternut[5]	*Juglans cinerea*	Endangered	Endangered	None observed
Eastern Prairie Fringed Orchid[5]	*Platanthera leucophaea*	Endangered	Endangered	No habitat
Insects				
Gypsy Cuckoo Bumble Bee[5]	*Bombus bohemicus*	Endangered	Endangered	No habitat
Monarch[5]	*Danaus plexippus*	Special Concern	Special Concern	Potential/Unconfirmed
Amphibians				
Jefferson Salamander[5]	*Ambystoma jeffersonianum*	Endangered	Endangered	No habitat
Western Chorus Frog[4, 5]	*Pseudacris triseriata*	No Status	Threatened	No habitat
Turtles				
Blanding's Turtle[1, 2, 4, 5]	*Emydoidea blandingii*	Threatened	Threatened	No habitat
Common Snapping Turtle[1, 4, 5]	*Chelydra serpentina*	Special Concern	Special Concern	No habitat
Snakes and Lizards				
Eastern Milksnake[4, 5]	*Lampropeltis triangulum triangulum*	No Status	Special Concern	Potential/Unconfirmed
Birds				
Bald Eagle[5]	*Haliaeetus leucocephalus*	Special Concern	N/A	No habitat
Bank Swallow[3, 5]	*Riparia riparia*	Threatened	Threatened	No habitat
Barn Swallow[3, 5]	*Hirundo rustica*	Threatened	Threatened	No habitat

Table 3: Species at Risk Potentially or Confirmed to be Present within the Study Area				
*Common Name	Scientific Name	Provincial Status (ESA, 2007)	Federal Status (SARA Schedule 1)	Potential/Unconfirmed or Confirmed Habitat Present within Property Boundaries
Black Tern[6]	*Chlidonias niger*	Special Concern	N/A	No habitat
Bobolink[3, 5]	*Dolichonyx oryzivorus*	Threatened	Threatened	No habitat
Canada Warbler[5]	*Cardellina Canadensis*	Special Concern	Threatened	No habitat
Chimney Swift[5]	*Chaetura pelagica*	Threatened	Threatened	No habitat
Common Nighthawk[5]	*Chordeiles minor*	Special Concern	Threatened	No habitat
Eastern Meadowlark[3, 5]	*Sturnella magna*	Threatened	Threatened	No habitat
Eastern Whip-poor-will[3, 5]	*Antrostomus vociferous*	Threatened	Threatened	No habitat
Eastern Wood-pewee[3, 5]	*Contopus virens*	Special Concern	Special Concern	Potential/Unconfirmed
Evening Grosbeak[3, 5]	*Coccothraustes vespertinus*	Special Concern	No Status	No habitat
Golden-winged Warbler[5]	*Vermivora chrysoptera*	Special Concern	Threatened	No habitat
Grasshopper Sparrow[5]	*Ammodramus savannarum*	Special Concern	Special Concern	No habitat
Least Bittern[5]	*Ixobrychus exilis*	Threatened	Threatened	No habitat
Loggerhead Shrike[5]	*Lanius ludovicianus*	Endangered	No Status	No habitat
Olive-sided Flycatcher[5]	*Contopus cooperi*	Special Concern	Threatened	No habitat
Red-headed Woodpecker[5]	*Melanerpes erythrocephalus*	Special Concern	Threatened	No habitat
Rusty Blackbird[5]	*Euphagus carolinus*	Special Concern	Special Concern	No habitat
Short-eared Owl[5]	*Asio flammeus*	Special Concern	Special Concern	No habitat
Wood Thrush[3, 5]	*Hylocichla mustelina*	Special Concern	Threatened	No habitat
Mammals				
Eastern Small-footed Myotis[5]	*Myotis leibii*	Endangered	N/A	No habitat

Table 3: Species at Risk Potentially or Confirmed to be Present within the Study Area				
*Common Name	Scientific Name	Provincial Status (ESA, 2007)	Federal Status (SARA Schedule 1)	Potential/Unconfirmed or Confirmed Habitat Present within Property Boundaries
Little Brown Myotis[5]	*Myotis lucifugus*	Endangered	Endangered	No habitat
Northern Myotis[5]	*Myotis septentrionalis*	Endangered	Endangered	No habitat
Tri-coloured Bat[5]	*Perimyotis subflavus*	Endangered	Endangered	No habitat

*This table was assembled from various sources of background information. The following information sources were consulted to compile background information: 1 – LIO geodatabase (MNRF, 2020b); 2 – NHIC data (MNRF, 2020a); 3 – Atlas of the Breeding Birds of Ontario (Bird Studies Canada et al., 2008); 4 – Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020); 5 – General range

Of the SAR identified by background information as potentially present within the vicinity of the study area, habitat observed during the field investigation within the study area does not appear to be suitable for the life processes of the following SAR: Bald Eagle, Bank Swallow, Barn Swallow, Black Tern, Blanding's Turtle, Bobolink, Butternut, Canada Warbler, Chimney Swift, Common Snapping Turtle, Eastern Meadowlark, Eastern Prairie Fringed Orchid, Eastern Small-footed Myotis, Eastern Whip-poor-will, Evening Grosbeak, Golden-winged Warbler, Grasshopper Sparrow, Gypsy Cuckoo Bumble Bee, Jefferson Salamander, Least Bittern, Little Brown Myotis, Loggerhead Shrike, Northern Myotis, Olive-sided Flycatcher, Red-headed Woodpecker, Short-eared Owl, Tri-colored Bat, Western Chorus Frog, and Wood Thrush.

Butternuts were not identified within or adjacent to the study area. Although this species can utilize a variety of habitats for growing conditions, the study area is small in area and the wooded areas would create too much shade for the preference of Butternuts. It is unlikely that this species will successfully propagate within the study area.

Suitable habitat for the following species was deemed to be potentially present within the study area, during the 2020 field investigation: Eastern Milksnake, Eastern Wood-pewee, and Monarch.

Adult Monarch may utilize cultural meadows, meadow marshes, and cultural thickets within the study area for foraging if there are a variety of wildflowers available. This species relies heavily on milkweed (*Asclepias* spp.) for several life processes. Common milkweed was identified within the study area. This species is listed as 'Special Concern' under the *Endangered Species Act* (2007) (ESA) and *Species at Risk Act* (2002) (SARA) and does not receive habitat protection. No individuals of this species were observed during the field investigations.

The Eastern Milksnake may be present within the study area for foraging, breeding, and/or overwintering. This species is considered a habitat generalist and may utilize a variety of habitats within and adjacent to the study area. This species is listed as 'Special Concern' under the SARA and does not receive habitat protection. No individuals of this species were observed during the field investigations.

The Eastern Wood-pewee is listed as 'Special Concern' under the ESA and SARA. The habitat for this species is not afforded protection under the ESA or SARA. However, individuals of this species, their eggs, nest and fledglings are

protected under the *Migratory Birds Convention Act* (MBCA) (1994). The Eastern Wood-pewee is a habitat generalist which will utilize a variety of habitats for nesting and foraging; however, it prefers forested edge habitat near water. Habitat of this type is available in ephemeral conditions (i.e. swale could be wet depending on precipitation) within the study area. However, it is unlikely that this species relies on the study area for important life processes as no individuals were identified during the field investigation.

3.7 Wildlife & Significant Wildlife Habitat

The study area is located in the Smiths Falls Ecodistrict (6E-11) of the Lake Simcoe-Rideau Ecoregion (6E) within the Mixedwood Plains Ecozone (Ecological Stratification Working Group, 1996). Characteristic wildlife present within this Ecoregion includes: northern raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), white-tailed deer (*Odocoileus virginianus*), groundhog (*Marmota monax*), waterfowl, turtles, snakes, and various bird species (Crins, et al., 2009).

The following section outlines the existing wildlife observations from the field investigation conducted within the study area. **Table 4** lists the species observed during the June 25, 2020 field investigation.

Table 4: Wildlife Species Observed within the Study Area

Common Name	Scientific Name	Resident/Seasonally	Evidence
Birds			
American Goldfinch	*Spinus tristis*	Seasonally	Singing male, within appropriate breeding habitat, during appropriate breeding season
American Robin	*Turdus migratorius*	Seasonally	Singing male, within appropriate breeding habitat, during appropriate breeding season
Black-and-white Warbler	*Mniotilta varia*	Seasonally	Singing male
Blue Jay	*Cyanocitta cristata*	Resident	Singing male
Brown-headed Cowbird	*Molothrus ater*	Seasonally	Visual observation
Chestnut-sided Warbler	*Setophaga pensylvanica*	Seasonally	Singing male, within appropriate breeding habitat, during appropriate breeding season
European Starling	*Sturnus vulgaris*	Resident	Visual observation
Great Crested Flycatcher	*Myiarchus crinitus*	Seasonally	Singing male, within appropriate breeding habitat, during appropriate breeding season
Ovenbird	*Seiurus aurocapilla*	Seasonally	Singing male
Red-eyed Vireo	*Vireo olivaceus*	Seasonally	Singing male
Song Sparrow	*Melospiza melodia*	Seasonally	Singing male, within appropriate breeding habitat, during appropriate

Table 4: Wildlife Species Observed within the Study Area			
Common Name	**Scientific Name**	**Resident/Seasonally**	**Evidence**
			breeding season (singing male)
Mammals			
eastern chipmunk	*Tamias striatus*	Resident	Visual observation
meadow vole	*Microtus pennsylvanicus*	Resident	Visual observation

For those observations of male birds singing, within appropriate breeding habitat, during the appropriate breeding season, this quality of breeding evidence represents "possible breeder," under the Ontario Breeding Bird Atlas' *Breeding Evidence Codes* (Bird Studies Canada, 2020). The American Goldfinch, American Robin, Black-and-white Warbler, Chestnut-sided Warbler, Great Crested Flycatcher, Ovenbird, Red-eyed Vireo, and Song Sparrow, their nests, and eggs are protected under the MBCA. The Blue Jay is afforded protection under the *Fish and Wildlife Conservation Act* (FWCA) (1997). The Brown-headed Cowbird and European Starling are not afforded protection under the MBCA or FWCA.

The study area was examined under the *Natural Heritage Reference Manual* (MNRF, 2010), *Significant Wildlife Habitat Technical Guide* (MNRF, 2000), and its supporting document *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF, 2015) to determine if significant wildlife habitat is present within the existing study area. **Table 5** outlines the various significant wildlife habitat (SWH) categories and rationale on their designation within the study area.

Table 5: Significant Wildlife Habitat within the Study Area		
Specialized Wildlife Habitat Category	**Candidate Significant Wildlife Habitat (Y/N)**	**Confirmed Significant Wildlife Habitat (Y/N)**
Waterfowl Stopover and Staging Areas (Terrestrial)	No	No
Waterfowl Stopover and Staging Areas (Aquatic)	No	No
Shorebird Migratory Stopover Area	No	No
Raptor Wintering Area	No	No
Bat Hibernacula	No	No
Bat Maternity Colonies	No	No
Bat Migratory Stopover Area	No	No
Turtle Wintering Area	No	No
Reptile Hibernaculum	No	No
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	No	No
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)	No	No
Colonially-Nesting Bird Breeding Habitat (Ground)	No	No
Migratory Butterfly Stopover Area	No	No

Table 5: Significant Wildlife Habitat within the Study Area		
Specialized Wildlife Habitat Category	**Candidate Significant Wildlife Habitat (Y/N)**	**Confirmed Significant Wildlife Habitat (Y/N)**
Landbird Migratory Stopover Areas	No	No
Deer Yarding Areas	No	No
Deer Winter Congregation Areas	No	No
Cliff and Talus Slopes	No	No
Sand Barren	No	No
Alvar	No	No
Old Growth Forest	No	No
Savannah	No	No
Tallgrass Prairie	No	No
Other Rare Vegetation Communities	No	No
Waterfowl Nesting Area	No	No
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	No
Woodland Raptor Nesting Habitat	No	No
Turtle Nesting Areas	No	No
Seeps and Springs	No	No
Amphibian Breeding Habitat (Woodland)	No	No
Amphibian Breeding Habitat (Wetlands)	No	No
Woodland Area-Sensitive Bird Breeding Habitat	No	No
Marsh Bird Breeding Habitat	No	No
Open Country Bird Breeding Habitat	No	No
Shrub/Early Successional Bird Breeding Habitat	No	No
Terrestrial Crayfish	No	No
Special Concern and Rare Wildlife Species	No	No
Amphibian Movement Corridors	No	No
Deer Movement Corridors	No	No
Mast Producing Areas	No	No
Lek	No	No

No Candidate or Confirmed Significant Wildlife Habitat were determined to be present within the study area.

4.0 DESCRIPTION OF THE PROPOSED PROJECT

The proposed development within the study area involves the construction of a warehouse extension to the existing commercial building and an expansion entrance in between, on the north end of the study area. The warehouse will consist of a one-storey, 8.45 m high building to be constructed and cover 1282.5 m^2 of the study area. The expansion entrance between the existing and proposed warehouses will cover 230 m^2. An extension to the existing paved driveway will also be constructed to link the southwest corner of the proposed warehouse. This driveway expansion will cover 144 m^2. Refer to **Figure 3A and 3B** for the site plan for the proposed development. The area of disturbance for this work (including the areas outlined above and the removal of vegetation) is approximately 2,535 m^2 of the subject property.

Firm Name: Rickson Outhet Architect
Certificate of Practice Number:
319 Daly Avenue
Ottawa, Ontario
The Certificate of Practice Number of the holder is the holder's BCDN.

Name of Project:
Playvalue Toys - Expansion

Location:
130 David Manchester Road
Ottawa, Ontario

Description:
New warehouse addition

ONTARIO ASSOCIATION OF ARCHITECTS — RICKSON O. OUTHET — LICENCE 3836

The architect noted above has exercised responsible control with respect to design activities. The architect's seal number is the architect's BCDN.

Item	Ontario Building Code Data Matrix Parts 3 & 9									OBC Reference	
1	Project Description:			☐ New ✓ Addition ☐ Change of Use	☐ Alteration	☐ Part 11 11.1 to 11.4				✓ Part 3 2.1.1	☐ Part 9 2.1.1 9.10.1.3
2	Major Occupancy(s): Retail store (E) & Warehouse (F2)									3.1.2.1.(1)	9.10.2
3	Building Area (m²)	Existing 1 282.5		New 1 536.3		Total 2 818.80				1.1.3.2	1.1.3.2
4	Gross Area	Existing 1 498.5		New 1 536.3		Total 3 034.80				1.1.3.2	1.1.3.2
5	Number of Storeys	Above grade 1			Below grade 0					3.2.1.1 & 1.1.3.2	2.1.1.3
6	Number of Streets/Fire Fighter Access 1 David Manchester Road									3.2.2.10 & 3.2.5.	9.10.19
7	Building Classification: E – 3.2.2.61 & F2- 3.2.2.71									3.2.2.20-.83	9.10.4
8	Sprinkler System Proposed			☐ entire building ☐ basement only ☐ in lieu of roof rating ✓ not required						3.2.2.20-.83 3.2.1.5 3.2.2.17	9.10.8
9	Standpipe required			☐ Yes ✓ No ☐ Existing						3.2.9	N/A
10	Fire Alarm required			☐ Yes ✓ No ☐ Existing						3.2.4	9.10.17.2
11	Water Service/Supply is Adequate			☐ Yes ✓ No ☐ Existing						3.2.5.7	N/A
12	High Building			☐ Yes ✓ No ☐ Existing						3.2.6	N/A
13	Permitted Construction Actual Construction	☐ Combustible ☐ Combustible		☐ Non-combustible ☐ Non-combustible		✓ Both ☐ Both				3.2.2.20-.83	9.10.6
14	Mezzanine(s) Area m²	216 (EXISTING)								3.2.1.1.(3)-(8)	9.10.4.1
15	Occupant load based on Basement: Public Staff	☐ m²/person Occupancy n/a Occupancy _____ Occupancy _____		☐ design of building Load n/a Load 100 Load 10		persons persons persons				3.1.16	9.9.1.3
16	Barrier-free Design	✓ Yes ☐ No (Explain) _____								3.8	9.5.2
17	Hazardous Substances	☐ Yes ☐ No								3.3.1.2. & 3.3.1.19	9.10.1.3(4)
18	Required Fire Resistance Rating (FRR)	Horizontal Assemblies FRR (Hours)			Listed Design No. or Description (SG-2)					3.2.2.20-.83 & 3.2.1.4	9.10.8 9.10.9
		Floors	1	Hour	n/a						
		Roof	0	Hours	n/a						
		Mezzanine	0	Hours	n/a						
		FRR of Supporting Members			Listed Design No. Or Description (SG-2)						
		Hours									
19	Spatial Separation – Construction of Exterior Walls									3.2.3	9.10.14
	Wall	Area of EBF (m²)	L.D. (m)	L/H or H/L	Permitted Max. % of Openings	Proposed % of Openings	FRR (Hours)	Listed Design or Description	Comb Const	Comb. Constr. Nonc. Cladding	Non-comb. Constr.
	North	n/a	n/a	n/a	n/a	n/a					
	South	300	59	3:1 to 10:1	100	0.7					
	East	990	25	Over 10:1	41	1.2					
	West	770	20	3:1 to 10:1	18	5.5					
20	Health Requirements									3.7	
	Ventilation – see mechanical engineering drawings									3.7.3	
	Plumbing fixtures Occupant load retail: public 100 peak load, 50 per sex (1) W/C each 300 males, (1) W/C each 150 females (3.7.4.8 (2)) Warehouse + retail staff (8): (1) W/C each sex (3.7.4.8(1))									3.7.4	
21	Safety Requirements within Floor Areas									3.3	
	Separations of Suites									3.3.1.1, 3.1.3.1	
	Egress Requirements									3.3.1.5, 3.4.2.1	
22	Location of Design of Access Routes -n/a									3.2.5.4, 5, & 6	
23	Protection of Exits Facilities									3.2.3.13	
24	Reserved										
25	Reserved										
26	Lighting & Emergency Power									3.2.7	
27	Safety Requirements for exits									3.4	

1 / A0 OBC MATRIX PART 3

DRAWING LIST

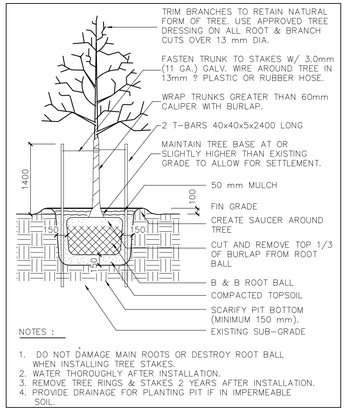
ARCHITECTURAL:

STRUCTURAL:

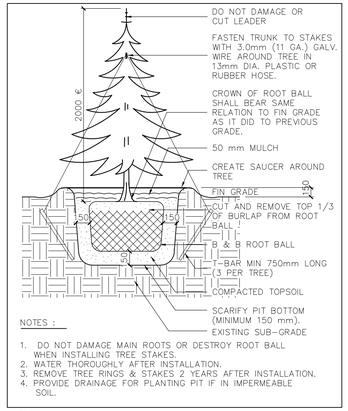
MECHANICAL:

ELETRICAL:

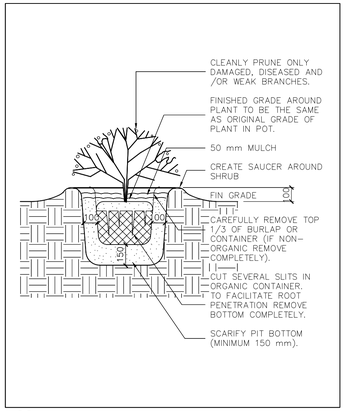
CIVIL:



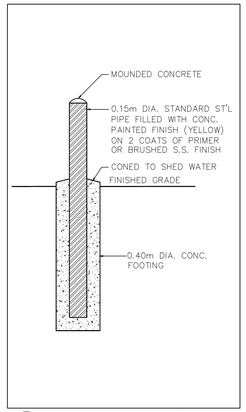
A / A0 DECIDUOUS TREE PLANTING N.T.S.



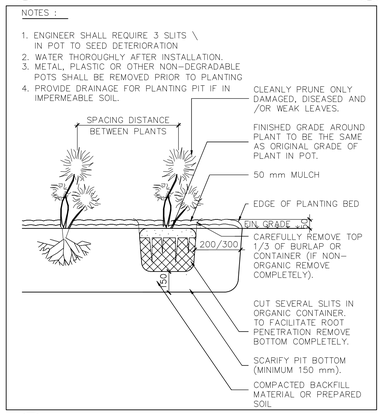
B / A0 CONIFEROUS TREE PLANTING N.T.S.



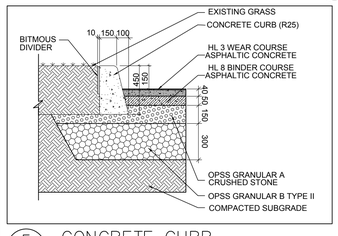
C / A0 SHRUB PLANTING N.T.S.



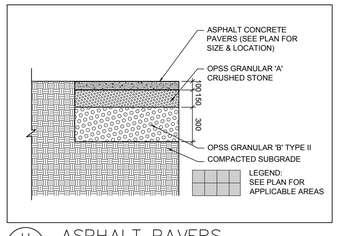
D / A0 BOLLARD DETAIL N.T.S.



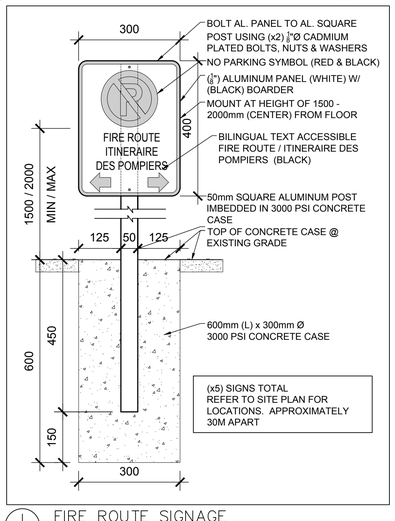
E / A0 PERENNIAL PLANTING N.T.S. (PREPARED AND POTTED)



F / A0 CONCRETE CURB N.T.S.

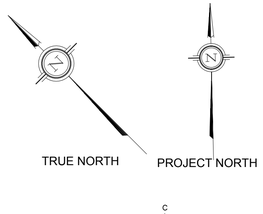


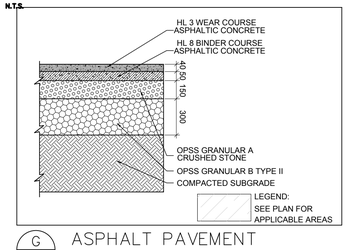
H / A0 ASPHALT PAVERS N.T.S.



I / A0 FIRE ROUTE SIGNAGE N.T.S.

APPROXIMATE LOCATION





G / A0 ASPHALT PAVEMENT N.T.S.

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1	SITE PLAN CONTROL RESPONSE #2R	SEPT 20 21
revision		date

A / C — A detail no. no. du détail
B location drawing no. no. de localisation
C drawing no. no. du dessin
A / BC

project / projet

PLAYVALUE TOYS

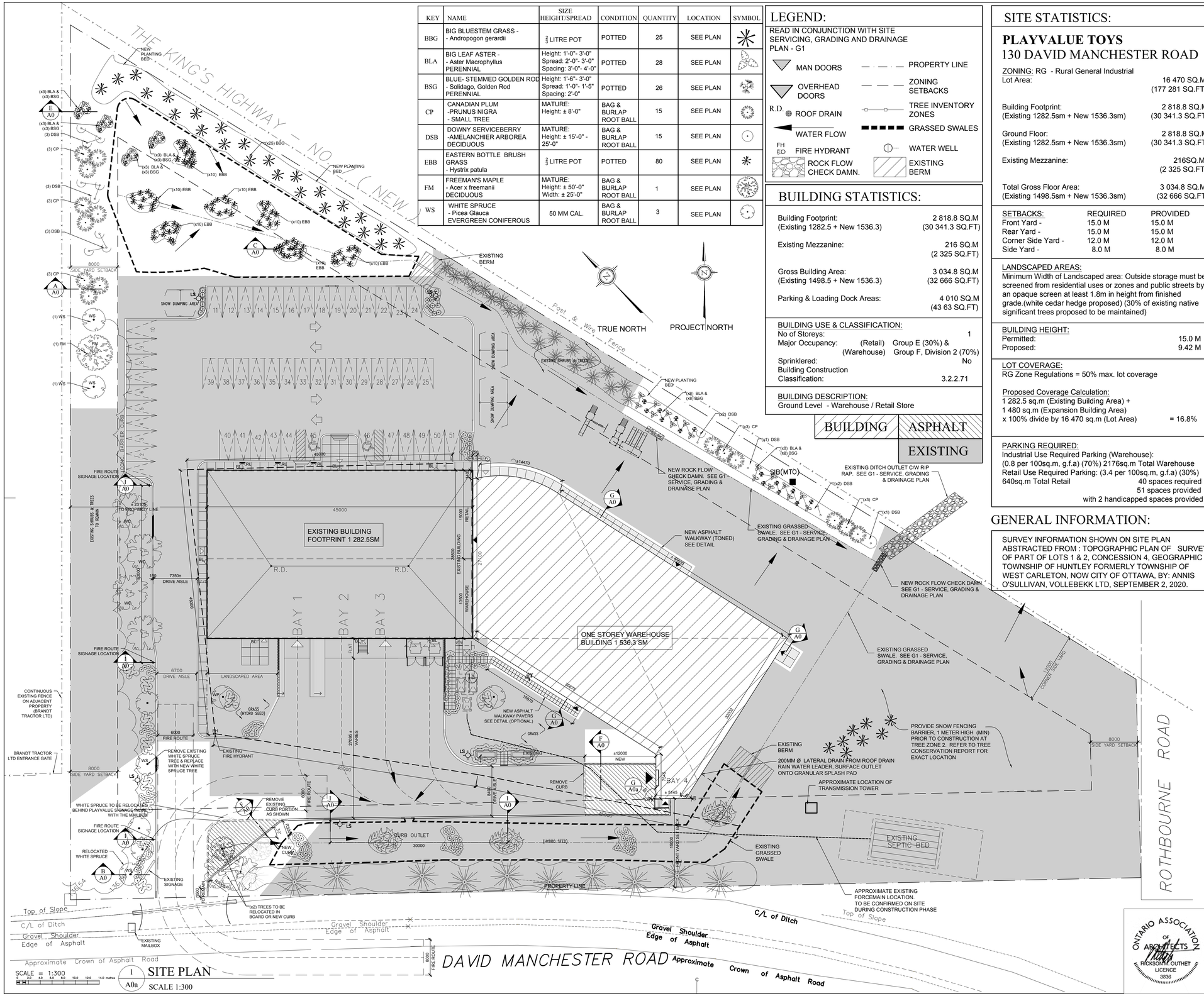
Figure 3-A

130 DAVID MANCHESTER ROAD

drawing / dessin

OBC MATRIX, DRAWING LIST & SITE PLAN DETAILS

designed	con?u
J.G.	
date	APRIL 27 2020
drawn	dessin?
J.G.	
date	APRIL 20 20
revised	revis?
R.O	
date	APRIL 22 2020
approved	approuv?
R.O	
date	APRIL 27 20
tender	soumission
R.O	
date	TBD
project no.	no. du projet
2020-06	
drawing no.	no. du dessin
A-0	



KEY	NAME	SIZE HEIGHT/SPREAD	CONDITION	QUANTITY	LOCATION	SYMBOL
BBG	BIG BLUESTEM GRASS - - Andropogon gerardii	#3 LITRE POT	POTTED	25	SEE PLAN	
BLA	BIG LEAF ASTER - - Aster Macrophyllus PERENNIAL	Height: 1'-0"- 3'-0" Spread: 2'-0"- 3'-0" Spacing: 3'-0"- 4'-0"	POTTED	28	SEE PLAN	
BSG	BLUE- STEMMED GOLDEN ROD - Solidago, Golden Rod PERENNIAL	Height: 1'-6"- 3'-0" Spread: 1'-0"- 1'-5" Spacing: 2'-0"	POTTED	26	SEE PLAN	
CP	CANADIAN PLUM -PRUNUS NIGRA - SMALL TREE	MATURE: Height: ± 8'-0"	BAG & BURLAP ROOT BALL	15	SEE PLAN	
DSB	DOWNY SERVICEBERRY -AMELANCHIER ARBOREA DECIDUOUS	MATURE: Height: ± 15'-0" - 25'-0"	BAG & BURLAP ROOT BALL	15	SEE PLAN	
EBB	EASTERN BOTTLE BRUSH GRASS - Hystrix patula	#3 LITRE POT	POTTED	80	SEE PLAN	
FM	FREEMAN'S MAPLE - Acer x freemanii DECIDUOUS	MATURE: Height: ± 50'-0" Width: ± 25'-0"	BAG & BURLAP ROOT BALL	1	SEE PLAN	
WS	WHITE SPRUCE - Picea Glauca EVERGREEN CONIFEROUS	50 MM CAL.	BAG & BURLAP ROOT BALL	3	SEE PLAN	

LEGEND:

READ IN CONJUNCTION WITH SITE SERVICING, GRADING AND DRAINAGE PLAN - G1

- MAN DOORS
- OVERHEAD DOORS
- R.D. ROOF DRAIN
- WATER FLOW
- FH FIRE HYDRANT
- ROCK FLOW CHECK DAMN.
- PROPERTY LINE
- ZONING SETBACKS
- TREE INVENTORY ZONES
- GRASSED SWALES
- WATER WELL
- EXISTING BERM

BUILDING STATISTICS:

Building Footprint: (Existing 1282.5 + New 1536.3)	2 818.8 SQ.M (30 341.3 SQ.FT)
Existing Mezzanine:	216 SQ.M (2 325 SQ.FT)
Gross Building Area: (Existing 1498.5 + New 1536.3)	3 034.8 SQ.M (32 666 SQ.FT)
Parking & Loading Dock Areas:	4 010 SQ.M (43 63 SQ.FT)

BUILDING USE & CLASSIFICATION:

No of Storeys:	1
Major Occupancy: (Retail) (Warehouse)	Group E (30%) & Group F, Division 2 (70%)
Sprinklered:	No
Building Construction Classification:	3.2.2.71

BUILDING DESCRIPTION:
Ground Level - Warehouse / Retail Store

BUILDING | ASPHALT | EXISTING

SITE STATISTICS:

PLAYVALUE TOYS
130 DAVID MANCHESTER ROAD

ZONING: RG - Rural General Industrial

Lot Area:	16 470 SQ.M (177 281 SQ.FT)
Building Footprint: (Existing 1282.5sm + New 1536.3sm)	2 818.8 SQ.M (30 341.3 SQ.FT)
Ground Floor: (Existing 1282.5sm + New 1536.3sm)	2 818.8 SQ.M (30 341.3 SQ.FT)
Existing Mezzanine:	216SQ.M (2 325 SQ.FT)
Total Gross Floor Area: (Existing 1498.5sm + New 1536.3sm)	3 034.8 SQ.M (32 666 SQ.FT)

SETBACKS:	REQUIRED	PROVIDED
Front Yard -	15.0 M	15.0 M
Rear Yard -	15.0 M	15.0 M
Corner Side Yard -	12.0 M	12.0 M
Side Yard -	8.0 M	8.0 M

LANDSCAPED AREAS:
Minimum Width of Landscaped area: Outside storage must be screened from residential uses or zones and public streets by an opaque screen at least 1.8m in height from finished grade.(white cedar hedge proposed) (30% of existing native significant trees proposed to be maintained)

BUILDING HEIGHT:

Permitted:	15.0 M
Proposed:	9.42 M

LOT COVERAGE:
RG Zone Regulations = 50% max. lot coverage

Proposed Coverage Calculation:
1 282.5 sq.m (Existing Building Area) +
1 480 sq.m (Expansion Building Area)
x 100% divide by 16 470 sq.m (Lot Area) = 16.8%

PARKING REQUIRED:
Industrial Use Required Parking (Warehouse):
(0.8 per 100sq.m, g.f.a) (70%) 2176sq.m Total Warehouse
Retail Use Required Parking: (3.4 per 100sq.m, g.f.a) (30%)
640sq.m Total Retail — 40 spaces required
51 spaces provided
with 2 handicapped spaces provided

GENERAL INFORMATION:

SURVEY INFORMATION SHOWN ON SITE PLAN ABSTRACTED FROM : TOPOGRAPHIC PLAN OF SURVEY OF PART OF LOTS 1 & 2, CONCESSION 4, GEOGRAPHIC TOWNSHIP OF HUNTLEY FORMERLY TOWNSHIP OF WEST CARLETON, NOW CITY OF OTTAWA, BY: ANNIS O'SULLIVAN, VOLLEBEKK LTD, SEPTEMBER 2, 2020.

playvalue.com TOYS

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E: admin@jrpeng.com

revision		date
1	SITE PLAN CONTROL RESPONSE #2R	SEPT 20 21

A detail no. no. du détail
B location drawing no. no. de localisation
C drawing no. no. du dessin

project / projet
PLAYVALUE TOYS
Figure 3-B
130 DAVID MANCHESTER ROAD

drawing / dessin
SITE PLAN

designed / con?u	J.G.
date	APRIL 27 2020
drawn / dessin?	J.G.
date	APRIL 20 20
revised / revis?	R.O
date	APRIL 22 2020
approved / approuv?	R.O
date	APRIL 27 20
tender / soumission	R.O
date	TBD
project no. / no. du projet	2020-06
drawing no. / no. du dessin	A-0A

ONTARIO ASSOCIATION OF ARCHITECTS — RICKSON A. OUTHET LICENCE 3936

5.0 IMPACT ASSESSMENT & RECOMMENDATIONS

The following sections outline and assess any potential impacts that are expected as a result of the proposed development. Recommendations for mitigation measures to avoid these impacts are outlined in Section 6.0 of this report.

5.1 Natural Heritage System Components, Surface Water, Groundwater, and Fish Habitat

No water features within 30 m of the study are were identified through background information or field investigation. No fish habitat is present within or adjacent to the study area. No wetlands are present within 120 m of the study area. It is not anticipated that the proposed project works will have any negative impacts to surface water, fish habitat, or wetlands. The current septic system bed is able to accommodate the warehouse expansion based on calculations regarding the existing retention area near the northern property boundary and existing grass swale (Capital Engineering Group Ltd., 2020, 2021a, and 2021b).

No well records were identified within the study area. No evidence of groundwater was observed during the field investigation. It is not anticipated that the project works will have any negative impact to groundwater.

5.2 Vegetation Cover

Vegetation removal is proposed to occur on approximately 2535 m^2 in the study area. Tree inventory zones 1 and 3 will be cleared entirely, as well as seven (7) trees in tree inventory zone 4. A total of 144 trees in the study area are proposed for removal as part of the development (**Figure 4**). The 2021 *Tree Conservation Report* prepared by E&S Tree Experts identifies the specific trees recommended for removal, including their species, size and locations within tree inventory zones 1, 3, and 4. The dry-fresh forb meadow and fresh-moist graminoid meadow (swale) are indicative of previous disturbance where regeneration of pioneer species and non-native invasive species have established. The fresh-moist white cedar-hardwood mixed woodland also contains non-native invasive species (i.e. common buckthorn) which is indicative of human influence. These areas do not comprise of sensitive vegetation communities or contain rare/SAR plant species. It is not anticipated that vegetation clearing will negatively impact the significant or rare vegetation communities as part of the project works.

5.3 Habitat for Species at Risk & Significant Wildlife Habitat

Due to their status of 'Special Concern,' habitat for the Eastern Wood-pewee is considered Significant Wildlife Habitat. Given that no individuals of this species were heard or observed during the June 25, 2020 field investigation and this species is known to be habitat generalist, it is not anticipated that this species will be negatively impacted by the proposed works. It is unlikely that this species relies significantly on habitat within the study area for life processes due to the species' generalist behaviour with regards to habitat and the limited amount of habitat provided within the study area. However, an avian screening should be conducted prior to any proposed vegetation clearing by a qualified avian biologist, if clearing is to be conducted from April 15 to September 5 (Hussell and Lepage, 2015), to ensure the species is not utilizing the study area for nesting purposes. Eastern Wood-pewee nests and eggs are afforded protection under the MBCA and cannot be harmed, harassed, or killed as a result of development activities.

The Eastern Milksnake may be present within the study area. This species is considered a habitat generalist and may utilize a variety of habitats within the study area. Eastern Milksnakes may utilize the forested habitats for foraging, breeding, and overwintering. It may also utilize the meadow habitats for foraging. No evidence of this species or other snakes utilizing the study area was observed during the field investigation. The proposed works are to be conducted in the north end of the study area with limited impacts to the vegetation communities. It is not anticipated that negative impacts to Eastern Milksnakes will occur as part of the project works.

Monarchs habitat was observed in the dry-fresh forb meadow in the south end of the study area. This area contained a stand of common milkweed which provides suitable habitat for all life processes of the Monarch. No Monarchs were observed within the study area during the field investigation. The south end of the study area containing the stand of common milkweed is outside of the footprint of the proposed warehouse expansion. It is not anticipated that negative impacts will occur to Monarchs as part of the project works.

During pre-consultation with the City of Ottawa, it was noted that SAR habitat was identified further down David Manchester Road and that this EIS would need to consider any potential impacts the development may have on their habitat. As noted, SAR habitat identified adjacent to the study area will not be affected by the development of this project.

If any SAR are observed during construction, all work within the work site should cease and the local MECP management biologist should be contacted (Ottawa District Office: 613-521-3450).

5.4 Wildlife & Significant Wildlife Habitat

A total of eight (8) species of migratory birds and three (3) non-migratory birds were observed to be possible breeders within the study area during the 2020 field investigation (**Table 4**). Vegetation clearing within the north end of the study area may impact breeding birds if construction occurs during the breeding bird period of April 15 to September 5 (Hussel and Lepage, 2015). It is recommended that clearing occur outside of the breeding bird period. If construction (including any vegetation removal) is proposed to occur during the breeding bird period (April 15 to September 5), of any year, the area where clearing is proposed to occur, must be screened by an avian specialist prior to construction activity. This is recommended in order to prevent negative impacts to migratory birds and other bird species, their nests, and eggs, which are protected under the MBCA or the FWCA.

5.5 Wildland Fire Risk Assessment

According to Section 3.1.8 of the *Provincial Policy Statement*, 2014, "Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may, however, be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards."

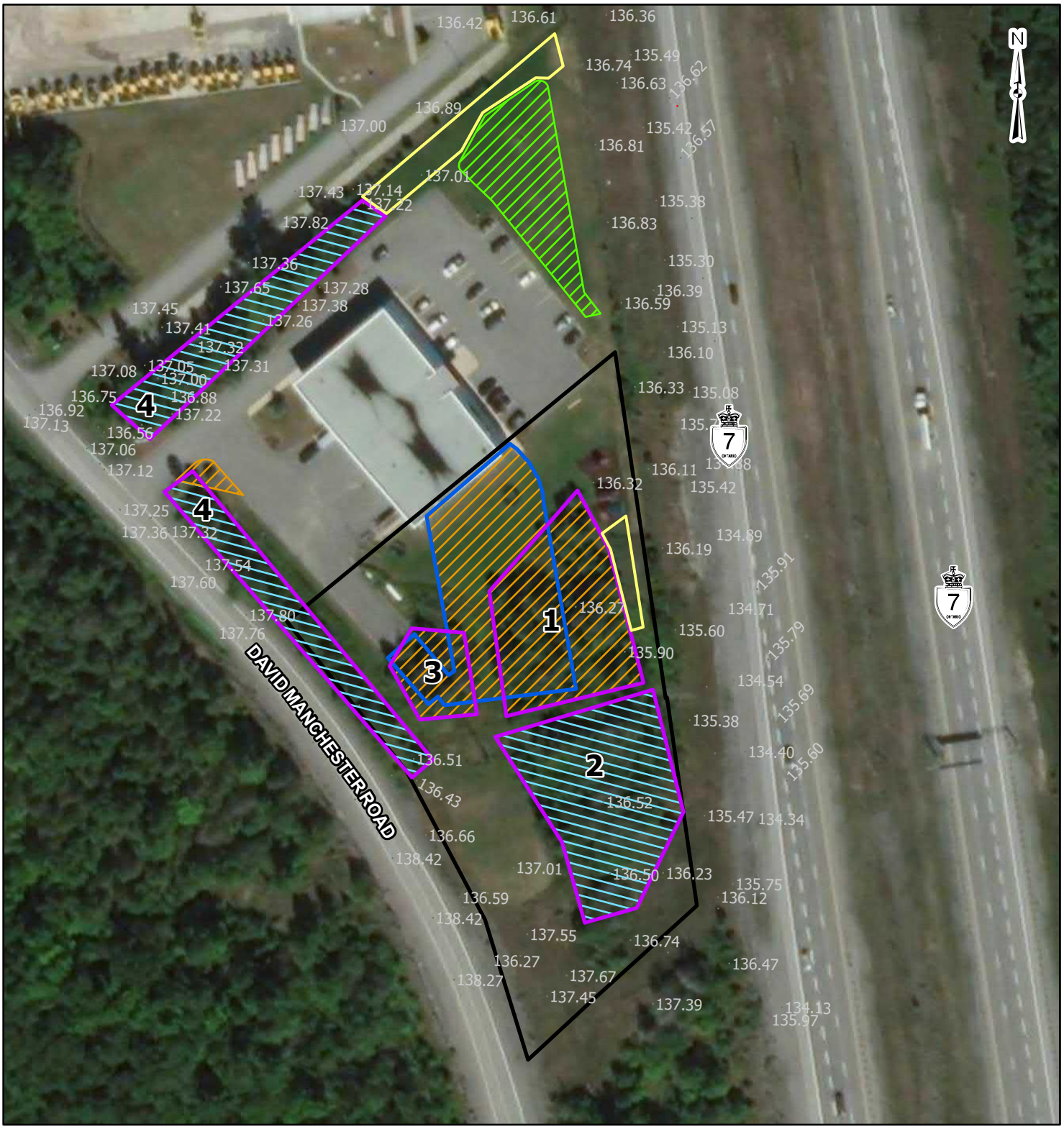
Wildland fire assessment is necessary to determine the presence or absence of forest types associated with the risk of high to extreme wildland fire. Recommended mitigation techniques are designed to disrupt that principle of combustion by eliminating one or more of the three necessary elements of fire (heat, oxygen and fuel). They do so by minimizing the opportunity for ignition of new fires from embers; reducing the potential for direct flame contact

from approaching wildland fires; and reducing the effects of radiant heat from an approaching wildland fire by reducing the opportunity for crown fire potential (MNRF, 2016).

The woody species composition (refer to Section 3.5), condition (i.e. standing cedar, mixed forest with low conifer composition, etc.), and health (i.e. low occurrence of insect or diseased trees), within 100 m of the proposed development, characterizes the woodland within the study area as not a hazardous forest type. Therefore, further risk assessment and mitigation measures are not required.

5.6 Identifying Cumulative Impacts

Based on the proposed development, there will be a net loss of trees within the study area. These trees are not deemed as high value or form significant vegetation communities, wildlife habitat, or other significant natural heritage features. It is recommended that the current site plan include compensation tree planting in order to partially mitigate cumulative impacts at a local site level through the loss of native tree species. It is not anticipated that cumulative negative impacts on a wider landscape context will occur as part of the development if the mitigation measures are followed.



LEGEND

- Study Area
- Development Footprint
- Existing Storm Pond
- Vegetation Removal/ Area of Disturbance
- Tree Inventory Zone
- Potential Planting Area
- Invasive Species Removal Enhancement

40 20 0 40

Scale 1:1,300 Metres

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2021.

CLIENT: DOUG JONES PLAYVALUE TOYS

PROJECT: ENVIRONMENTAL IMPACT STATEMENT

TITLE: NATURAL FEATURES MAP

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

PROJECT NO:PCO-21-0619	
Date	Jul., 09, 2021
GIS	EU
Checked By	EP

FIGURE: 4

C:\Users\ldassen\McIntosh Perry\GIS - Documents\Projects\2021\CCO\CCO-21-0619 PlayValue Toys EIS\06 - GIS\aprx\CCO210619_00_NF_update\CCO210619_02_NaturalFeatures_Update.aprx

6.0 RECOMMENDED MITIGATION MEASURES

In order to minimize or eliminate environmental impacts and to help achieve ecological and environmental improvements from the proposed construction and development, the following mitigation measures are recommended:

- In accordance with Appendix 10 of the *Environmental Impact Statement Guidelines*, it is recommended that only locally appropriate native species be used for landscaping within the subject property. This would contribute to re-establishing native plants within the local site level landscape and potentially have a positive impact for biodiversity (i.e., using native species for pollinators such as bees). The City of Ottawa *Tree Protection By-law* (No. 2020-340) does not indicate that tree removal on private property in rural areas requires compensation planting or cash-in-lieu. Disturbed areas that are not part of the proposed warehouse expansion or driveway extension should be replanted with locally grown native species. Use of non-native plant material should be discouraged. These trees should consist of native species of coniferous and deciduous trees, and contribute positively to the local ecology which can include, but are not limited to the following:
    - Large trees: balsam fir, eastern white-cedar, eastern white pine, tamarack, white spruce, American beech (*Fagus grandifolia*), bitternut hickory (*Carya cordiformis*), bur oak, (*Quercus macrocarpa*), Freeman maple (*Acer x freemanii*), ironwood (*Ostrya virginiana*), paper birch, red oak, white ash, and white elm;
    - Small trees (smaller specimens that are considered shrubs, but are also considered trees when larger): alternate-leaved dogwood (*Cornus alternifolia*), American mountain-ash (*Sorbus americana*), Bebb willow (*Salix bebbiana*), Canada plum (*Prunus nigra*), downy hawthorn (*Crataegus mollis*), downy serviceberry (*Amelanchier arborea*);
- The planted trees should be of an age and size that is appropriate for the conditions of the planting areas which will provide the optimal growing conditions. Bare root stock is recommended for areas with very little disturbance from vehicle or foot traffic (bare root stock is generally 2 years of age and approximately 30 to 50 cm high, depending on species). There is limited space within the study area for re-planting trees and shrubs to compensate a portion of the 144 removed trees. However, two (2) potential planting areas have been outlined (**Figure 4**) in which vegetation loss compensation can occur without interfering with drainage or stormwater management features on site (see Servicing and *Stormwater Management Report* [Capital Engineering Group Ltd, 2020] for details on the Stormwater Management Plan for the subject property and *Playvalue Phase 2 Servicing and Drainage Plan* [Capital Engineering Group Ltd, 2021a] for details on the drainage plan for the subject property);
- It is recommended that a fence is installed around the entire tree inventory zone 2 to prevent disturbance, damage, and destruction of the trees within that zone during construction. Details of the fence are listed below and follow the City of Ottawa *Tree Protection By-law* (No. 2020-340) and associated City of Ottawa *Tree Protection Specification*:
    - The fence should be installed in a manner that protects the critical root zone (CRZ). The CRZ typically grows horizontally underground to the extent that the canopy grows. An approximation of the CRZ can be made by utilizing the diameter at breast height (DBH) of the tree trunk and multiplying that value by 10. The largest DBH in tree inventory zone 2 was measured at 29 cm. Therefore, the CRZ for

that tree would be approximately 290 cm. For simplicity, the fence should be installed no less than 3 m from the trunks of any trees in tree inventory zone 2;
    - The fence must be constructed of rigid or framed materials (e.g., Moduloc-steel, plywood, or snow fence on a wood frame) with posts 2.4 m apart, such that the fence cannot be altered. All supports and bracing must be placed outside of the CRZ and installation must minimize damage to existing roots;
    - The fence should be 1.2 m in height around the outer edge of the CRZ of trees prior to beginning other site work. The fence should not be moved and be maintained until the work is complete;
    - No materials or equipment should be placed within the CRZ;
    - No grade changes should occur within the CRZ and no extension of hard surfaces or significant changes to the landscape should occur within the CRZ;
    - No signs, notices or posters should be attached to any tree in the CRZ, except as required by the Tree Protection by-law for trees to be removed. Signs indicating CRZ and tree protection must be posted on the fence every 10 m;
    - No damage to the root system, trunk or branches of any tree in the CRZ should occur; and
    - Ensure that exhaust fumes from equipment are not directed towards any tree's canopy.
- A potential enhancement for the study area can include clearing of invasive species such as common and glossy buckthorn that are highly invasive shrubs and can impact local native ecology (**Figure 4**). If the recommendation of removing these invasive shrub species is considered as part of the development, the removals should be conducted by utilizing the guidance document *Invasive Common (European) Buckthorn (*Rhamnus cathartica*): Best Management Practices in Ontario* (Anderson, 2012);
- To prevent the introduction and spread of invasive plant species into the site, equipment utilized during construction should be inspected and cleaned in accordance with the *Clean Equipment Protocol for Industry* (**Appendix B**);
- During construction, the Contractor should have a spill kit on-hand at all times, in case of spills. An *Erosion & Sediment Control Plan* (Capital Engineering Group Ltd, 2021b) has been prepared as part of the development site plan;
- In accordance with Appendix 10 of the *Environmental Impact Statement Guidelines* (2015) for the City of Ottawa, no clearing of any vegetation or other construction, should occur from April 15 to September 5, unless a qualified biologist has determined that no nesting is occurring within 5 days prior to the clearing. Note: these dates are based upon breeding bird nesting data for eastern Ontario, provided by Environment Canada. The nests and eggs of many species are protected under federal and/or provincial legislation (i.e., MBCA, FWCA);
- In accordance with Table 1 of the City of Ottawa's *Protocol for Wildlife Protection during Construction* (2015b), prior to removal of any shrubs or trees in March through mid-August (breeding migratory birds), a biologist should be retained to inspect the habitat for active nests or dens. If none are determined to be present, removal should occur within a few days of the inspection (the same day if possible, during sensitive periods). Thickets or woodlands should not be removed during sensitive times of year (i.e., March through mid-August for the breeding season, Mid-October through March for overwintering wildlife). The *Canadian Wildlife Service does not support relying on inspections for migratory bird nests in such habitats due to the difficulty of locating all nests and risk to birds*, and

- Should any SAR be discovered during construction, a management biologist at MECP – Ottawa District should be contacted immediately, and operations modified to avoid any negative impacts to SAR or their habitat until further direction is provided by MNRF.

7.0 SUMMARY

This EIS supports the development of a warehouse on the property at 130 David Manchester Road, legally known as “Part Lot 1, Concession 4, Huntley Township, City of Ottawa.”

This EIS has assessed existing land use and determined the impacts to the natural heritage features, as well as SAR and SAR habitat as a result of the proposed development. The project design incorporates mitigation measures to protect natural heritage features. The mitigation measures include various mitigation measures to achieve no residual effects on the natural heritage features. If the recommendations and mitigation measures provided in Sections 5.0 and 6.0 of this report are followed, the proposed development is not anticipated to negatively impact the natural heritage features observed to be present within the study area.

8.0 LIMITATIONS

The investigations undertaken by McIntosh Perry with respect to this report and any conclusions or recommendations made in this report reflect McIntosh Perry's judgment based on the site conditions observed at the time of the site inspection(s) on the date(s) set out in this report and on information available at the time of the preparation of this report.

This report has been prepared for specific application to this site, and it is based, in part, upon visual observation of the site and terrestrial investigations at various locations during a specific time interval, as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, or portions of the site which were unavailable for direct investigation.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary.

If you have any question, comments, or concerns, please do not hesitate to contact the undersigned at McIntosh Perry at 613-903-6147.

Sincerely,
McIntosh Perry Consulting Engineers Ltd.

_____
Erik Pohanka, B. Sc.
Biologist

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APPENDIX A: SITE PHOTOGRAPHS

Photo 1: Mown lawn (left) and fresh-moist white cedar-hardwood mixed woodland (right) in the north end of the study area where development is proposed. 25 June 2020.

Photo 2: Northwest end of the study area (looking southeast) where the driveway extension is proposed. 25 June 2020.

Photo 3: Fresh-moist graminoid meadow (swale) in the north end of the study area between fresh-moist white cedar-hardwood mixed woodland areas. 25 June 2020.

Photo 4: Fresh-moist graminoid meadow (swale) in the middle of the study area between fresh-moist white cedar-hardwood mixed woodland areas connecting drains under David Manchester Road and Highway 7. 25 June 2020.

Photo 5: Drain under Highway 7 at the east boundary of the study area. 25 June 2020.

Photo 6: Mown area in the southwest end of the study area. 25 June 2020.

Photo 7: Fresh-moist white cedar-hardwood mixed woodland in the north end of the study area. 25 June 2020.

*Photo 8: Dry-fresh forb meadow in the south end of the study area which included Monarch habitat in the form of a patch of common milkweed (*Asclepias syriaca*) (foreground left). 25 June 2020.*

*Photo 9: Meadow voles (*Microtus pennsylvanicus*) and eastern chipmunks (*Tamias striatus*) were observed within the study area which dig underground for dwellings. 25 June 2020.*

Photo 10: Fresh-moist white cedar-hardwood mixed woodland in the south end of the study area. 25 June 2020.

*Photo 11: Adult American Robin (*Turdus migratorius*) observed in the fresh-moist white cedar-hardwood mixed woodland within the study area. 25 June 2020.*

*Photo 12: Juvenile American Robin (*Turdus migratorius*) observed in the mown area within the north end of the study area. 25 June 2020.*

*Photo 13: European Starling (*Sturnus vulgaris*) observed in the mown area within the north end of the study area. 25 June 2020.*

APPENDIX B: CLEAN EQUIPMENT PROTOCOL FOR INDUSTRY

Clean Equipment Protocol for Industry

Inspecting and cleaning equipment for the purposes of invasive species prevention

Invasive Species Centre

Catalyst for research and response

Ontario

Peterborough County Stewardship

Ontario Invasive Plant Council

Publication Information

Halloran, Joe, Anderson, Hayley and Tassie, Danielle. 2013. Clean Equipment Protocol for Industry. Peterborough Stewardship Council and Ontario Invasive Plant Council. Peterborough, ON.

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For more information on invasive plants in Ontario, visit www.ontario.ca/invasivespecies, www.ontarioinvasiveplants.ca, www.invadingspecies.com or www.invasivespeciescentre.ca

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Introduction

Why Invasive Plants are a Problem

Invasive alien species are "a growing environmental and economic threat to Ontario. Alien species are plants, animals and microorganisms that have been accidentally or deliberately introduced into areas beyond their normal range. Invasive species are defined as harmful alien species whose introduction or spread threatens the environment, the economy, or society, including human health (Government of Canada 2004)." (Ontario Invasive Species Strategic Plan, 2012). The great majority of plant invasions occur in habitats that have been disturbed either naturally or by humans (Rejma´nek 1989; Hobbs and Huenneke 1992; Hobbs 2000).

The ecological effects of invasive species are often irreversible and, once established, they are extremely difficult and costly to control or eradicate. According to Pimental et al. (1999), invasive species in the U.S. cause economic and environmental damages totalling over $138 billion per year, with agricultural weed control and crop losses totalling approximately $34 billion per year. Exact figures for the total economic and environmental damages are not available for Canada. In Ontario however, the costs of dealing with just one invasive species is astonishing; Zebra Mussels cost Ontario power producers who draw water from the lake $6.4 million per year in increased control/operating costs and about $1 million per year in research costs (Colautti et al. 2006).

Invasive species can spread to new areas when contaminated mud, gravel, water, soil and plant material are unknowingly moved by equipment used on different sites. This method of spread is called an unintentional introduction, and is one of the four major pathways for invasive species introduction into a new area of Ontario (Ontario Invasive Species Strategic Plan, 2012).

Buckthorn removal, Lynde Shores Conservation Area.
Photo by: Central Lake Ontario Conservation Authority

Invasive plant seed and propagules (plant material, i.e. rhizomes) have the ability to travel sight unseen in mud attached to or lodged in various parts and spaces between parts of vehicles, machinery and other mechanical equipment. A recent study at Montana State University found that most seeds (99% on paved roads and 96% on unpaved roads) stayed attached to the vehicle after traveling 160 miles (257 km) under dry conditions.

Invasive plant species are commonly transported on or in vehicles and construction equipment when they are moved to new locations. Those vehicles include four-wheel drives, excavators, tractors, loaders, water trucks and all-terrain vehicles. Failure to properly clean vehicles and machinery of soils, mud, and contaminated water that may contain invasive species seed and propagules can result in permanent, irreversible environmental impacts. These impacts can mean substantial cost to the landowner, land manager and/or the user. Businesses may also face liability issues for activities and operations that result in the introduction of invasive species.

Some of the invasive species in Ontario which have been known to spread through equipment transfer include:

- **Common Buckthorn** *(Rhamnus cathartica)*
- **Dog-strangling Vine** *(Cynanchum rossicum)*
- **Garlic Mustard** *(Alliaria petiolata)*
- **Giant Hogweed** *(Heracleum mantegazzianum)*
- **Glossy Buckthorn** *(Frangula alnus)*
- **Japanese Knotweed** *(Polygonum cuspidatum)*
- **Miscanthus or Chinese Silver Grass** *(Miscanthus sinensis)*
- **Phragmites or Common Reed** *(Phragmites australis subsp. australis)*
- **Reed Canary Grass** *(Phalaris arundinacea)*
- **Wild Parsnip** *(Pastinaca sativa)*
- **Wild Chervil** *(Anthriscus sylvestri)*

Dog-strangling vine
(Cynachum rossicum)
Photo by: Hayley Anderson

Garlic Mustard
(Alliaria petiolata)
Photo by: Ken Towle

Phragmites
(Phragmites australis subsp. Australis)
Photo by: Michael Irvine

These plants impact biodiversity by out-competing native species for space, sunlight, and nutrients. They can also have impacts on road and driver safety by physically blocking intersection sightlines, and in the case of Phragmites and Miscanthus, may fuel intense grass fires if ignited, which can damage utility stations and hydro lines.

The harmful effects of invasive species include:

- Physical and structural damage to infrastructure
- Human health hazards (i.e. Giant Hogweed and Wild Parsnip exposure)
- Delays and increased cost in construction activities
- Environmental damage (i.e. erosion)
- Aesthetic degradation
- Loss of biodiversity
- Reduced property values
- Loss of productivity in woodlots and agriculture

Why Cleaning Vehicles and Equipment is Important

Passenger and recreational vehicles as well as heavy machinery are major vectors for spreading terrestrial invasive species into new areas.

It is much more costly to control invasive species after their establishment and spread than it is to prevent their spread. The spread of invasive species through unintentional introduction can be minimized significantly by the diligent cleaning of vehicles and equipment when leaving one site and moving to the next. In the case of large properties, cleaning before moving to a new site is recommended, even if it is within the same property.

This guide has been developed for the construction, agriculture, forestry and other land management industries, to provide equipment operators and practitioners with tools and techniques to identify and prevent the unintentional introduction of invasive species. It establishes a standard for cleaning vehicles and equipment and provides a guide where current codes of practice, industry standards or other environmental management plans are not already in place.

Passenger and recreational vehicles include:

- 2WD and 4WD cars
- 2WD and 4WD trucks
- All Terrain Vehicles (ATV's)
- Motorbikes
- Snowmobiles

Heavy machinery includes:

- Trucks
- Tractors
- Mowers
- Slashers
- Trailers
- Backhoes
- Graders
- Dozers
- Excavators
- Skidders
- Loaders
- Water Tankers and Trucks

Dog-strangling Vine plants attached to ATV.
Photo by: Francine Macdonald

Plant material attached to bobcat.
Photo by: TH9 Outdoor Services

Impacts of Invasive Species on Industry

Construction

In the UK, Japanese Knotweed (*Polygonum cuspidatum* or *Fallopia japonica*) is classified as a hazardous material. When construction occurs in established Japanese Knotweed stands workers sift the soil to remove root fragments and institute treatment plans to ensure that the Knotweed does not re-sprout, as it can damage housing foundations by growing through concrete and asphalt. The contractors must also thoroughly clean their equipment, and dispose of the contaminated soil at biohazard waste sites. While we do not have these requirements in Ontario, Japanese Knotweed is present here.

Invasive plant species can also increase site preparation and weed control costs, and reduce property values. For example, in Vermont the presence of the aquatic invasive plant Eurasian Watermilfoil (*Myriophyllum spicatum*) depressed shoreline residence property value by as much as 16.4% (Zhang and Boyle, 2010).

Forestry/Agriculture

Invasive plant species which become established in forests will out-compete native species and prevent forest re-generation after logging or natural disturbance. Dog-strangling Vine (*Cynanchum rossicum*) is of particular concern in conifer plantations. This species thrives in the filtered light and open soils of mature plantations, and suppresses seedling establishment of native hardwoods. If its invasion continues, very few juvenile trees will survive to fill the shrinking canopy of over-mature pines. Reforestation sites are also susceptible; the thick mats of vegetation and aggressive competition from Dog-strangling Vine decrease available planting space and increase costs as more mature vegetation needs to be planted in order to ensure the new vegetation can outcompete the invasive plant. As a result, expensive control programs are often required.

Land Management (Trail Use/Maintenance)

Recreational trail use and the maintenance of trails can facilitate the transport of invasive plant material and seeds, and create open and disturbed sites that are prime locations for the establishment of invasive species. Studies have proven that trails act as corridors which assist in the spread of invasive plant species. Humans, their pets, and vehicles such as ATV's can be vectors of invasion along trails because seeds and plant pieces can be carried on equipment and clothing. In addition, frequent trampling along trails alters soil properties, limits the growth of some native species, and creates conditions that may favour the growth of non-native species (Kuss et al. 1985; Marion et al. 1985; Yorks et al. 1997).

Roadsides/Utilities

Invasive species can increase the cost of roadside and utility maintenance by requiring additional maintenance and control efforts. The presence of invasive species can also provide a safety hazard. In the case of Phragmites and Miscanthus (invasive grass species), along with interrupting sight lines, the dead stalks which remain standing each autumn also provide combustible material. Fires in these stands burn intensely, and can damage utilities and hydro lines. Phragmites along roadsides is generally assumed to be spread through the transport and burial of rhizome fragments through ditching, ploughing, and other human activities that transport rhizomes on machinery. Studies have shown that vehicles and road-fill operations can transport invasive plant seeds into uninfested areas, and road construction and maintenance operations provide optimal disturbed sites for seed germination and seedling establishment (Schmidt 1989; Lonsdale & Lane 1994; Greenberg et al. 1997; Trombulak & Frissell 2000).

Steps to Prevent the Unintentional Introduction of Invasive Species from Equipment

Inspection and cleaning of all machinery and equipment should be performed in accordance with the procedures, checklists and diagrams provided in this protocol.

When visiting more than one site, always schedule work in the sites that are the least disturbed and free of known invasive species first, and visit sites with known invasive species infestations last. This will greatly reduce the risk of transferring plants to new locations.

When to Inspect

Inspection should be done before:

- Moving vehicles out of a local area of operation
- Moving machinery between properties or sites within the same property where invasive species may be present in one area, and not in another
- Using machinery along roadsides, in ditches, and along watercourses
- Vehicles using unformed dirt roads, trails or off road conditions
- Using machinery to transport soil and quarry materials
- Visiting remote areas where access by vehicles is limited

Inspection should be done after:

- Operating in areas known to have terrestrial invasive plants or are in high risk areas (i.e. recently disturbed areas near known invaded areas)
- Transporting material (i.e. soil) that is known to contain, or has the potential to contain, invasive species
- Operating in an area or transporting material that you are uncertain contain invasive species
- In the event of rain. If mud contains seeds, they can travel indefinitely until it rains or the road surface is wet, allowing for long distance transport. This may result in transporting seeds to areas where those species did not previously exist

How to Inspect

- Inspect the vehicle thoroughly inside and out for where dirt, plant material and seeds may be lodged or adhering to interior and exterior surfaces.
- Remove any guards, covers or plates that are easy to remove.
- Attention should be paid to the underside of the vehicle, radiators, spare tires, foot wells and bumper bars.

If clods of dirt, seed or other plant material are found, removal should take place immediately, using the techniques outlined below.

When to Clean

Vehicles and heavy equipment that stay on formed and sealed roads have a low risk of spreading invasive species. Cleaning is only required when inspection identifies visible dirt clods and plant material or when moving from one area to another.

Depending on the invasive species present, vehicles may need to be cleaned even when deep snow is present. Phragmites, for example, can still be spread, even in packed snow because the seed heads are usually above the surface of the snow. Other plants, such as Dog-strangling vine, will be contained beneath deep snow.

**Regular inspection of vehicles and machinery will identify if any soil or plant material has been collected on or in vehicles and machinery.*

Where to Clean

Clean the vehicle/equipment in an area where contamination and seed spread is not possible (or limited). The site should be:

- Ideally, mud free, gravel covered or a hard surface. If this option is not available, choose a well maintained (i.e. regularly mowed) grassy area.
- Gently sloping to assist in draining water and material away from the vehicle or equipment. Care should be taken to ensure that localized erosion will not be created, and that water runs back into the area where contamination occurred.
- At least 30m away from any watercourse, water body and natural vegetation.
- Large enough to allow for adequate movement of larger vehicles and equipment.

**Safely locate the vehicle and equipment away from any hazards. If mechanized, ensure engine is off and the vehicle or equipment is immobilized.*

How to Clean Inside

Clean the interior of the vehicle by sweeping, vacuuming or using a compressed air device. Particular attention should be paid to the floor, foot wells, pedals, seats and under the seats.

How to Clean Outside

Knock off all large clods of dirt. Use a pry bar or other device if necessary.

Identify areas that may require cleaning with compressed air rather than water such as radiators and grills. Clean these areas first prior to using water.

Clean the vehicle with a high pressure hose in combination with a stiff brush and/or pry bar to further assist the removal of dirt clods.

Start cleaning from the top of the vehicle and work down to the bottom.

Emphasis should be placed on the undersides, wheels, wheel arches, guards, chassis, engine bays, radiator, grills and other attachments.

When the cleaning is finished avoid driving through the waste water when removing the vehicle or equipment from the cleaning site.

For equipment such as water trucks that may be exposed to aquatic invasive species, trucks should be disinfected with bleach solution before conducting work in a new area. For further information please refer to the Invading Species Awareness Program's Technical Guidelines listed under Contacts and Resources.

Hosing down a vehicle in Queensland Australia
Photo by: TH9 Outdoor Services

Final Inspection Checklist

Conduct a final inspection to ensure the following general clean standard has been achieved:

- No clods of dirt should be visible after wash down.
- Radiators, grills and the interiors of vehicles should be free of accumulations of seed, soil, mud and plant material parts including seeds, roots, flowers, fruit and or stems.

Diagrams have been provided to assist in quickly identifying key areas to inspect and clean on a variety of vehicles associated with the targeted industries. These can be used in combination with vehicle checklists to ensure all areas of the vehicles have been inspected and cleaned.

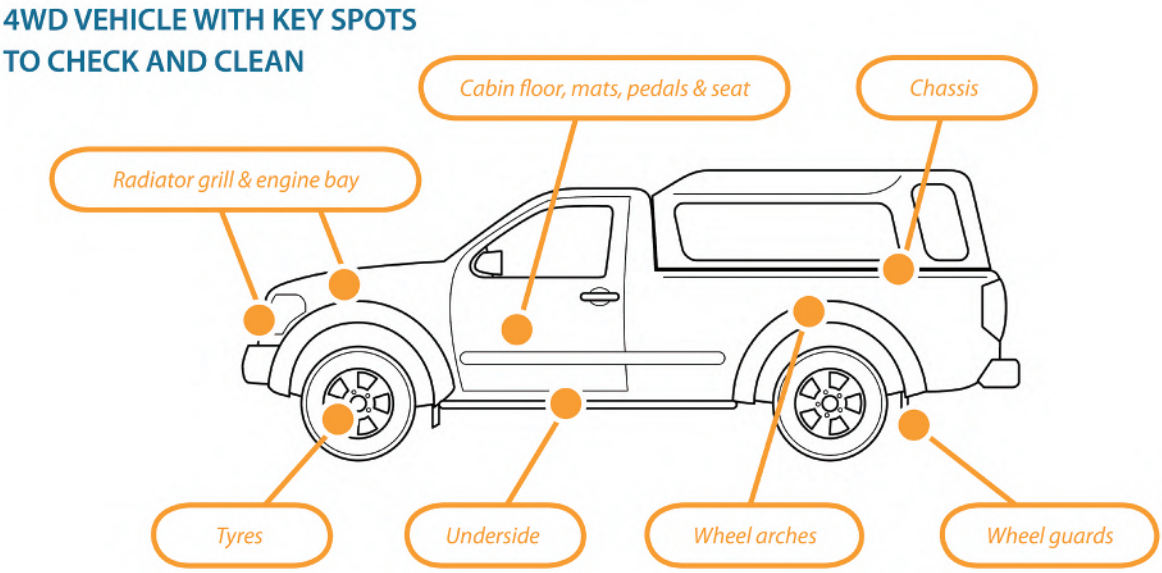
Equipment Required

- A pump and high pressure hose OR High pressure water unit
- Minimum water pressure for vehicle cleaning should be at least 90 pounds per square inch. Water can be supplied as high volume/low pressure or low volume/high pressure (NOAA Fisheries Service).
- Air compressor and blower OR Vacuum
- Shovel
- Pry bar
- Stiff brush or broom

Cleaning station at construction site.
Photo by: Mark Heaton, OMNR

Inspection and Cleaning Diagrams and Checklists

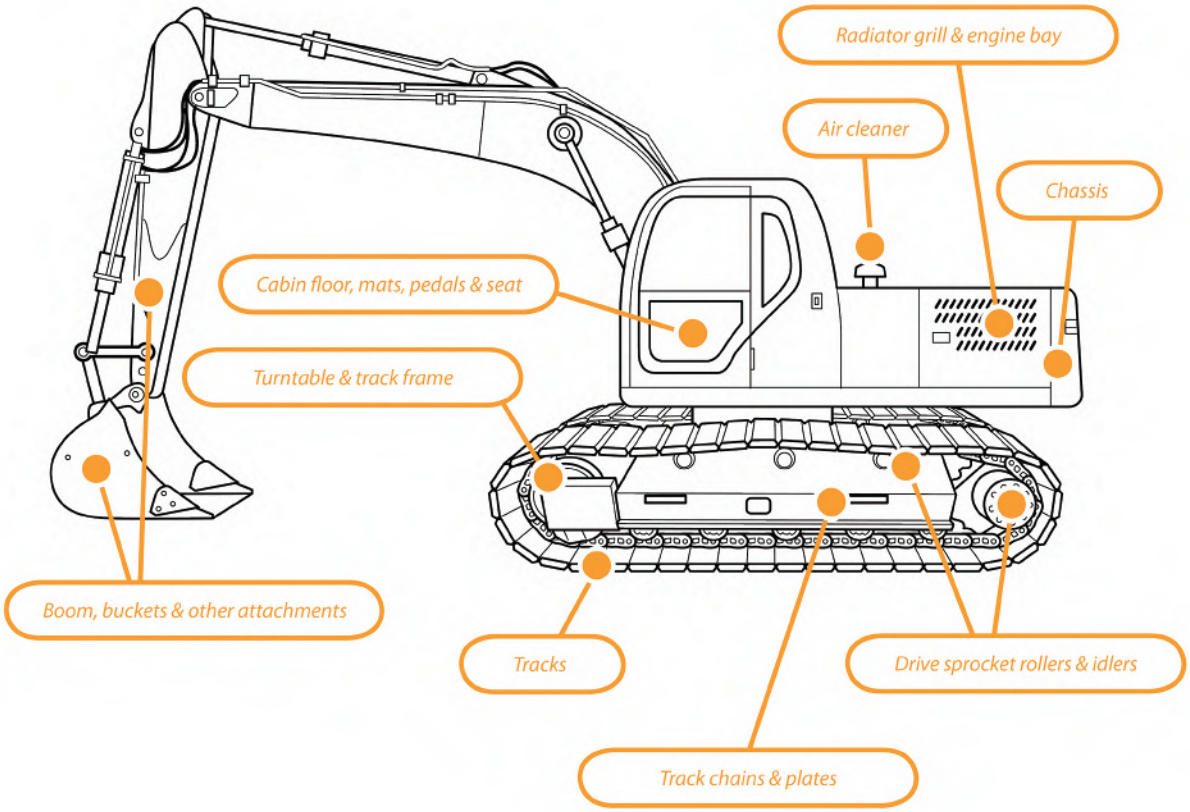
2WD and 4WD Vehicles



		✓
Cabin	Floor, mats, pedals, seats	
Engine	Radiators, engine bay, grill	
Body	Underside, chassis, crevices, ledges, bumper bars	
Wheels	All wheels (including spare), wheel arches, guards	
Tray	Floor, canopy (if included)	

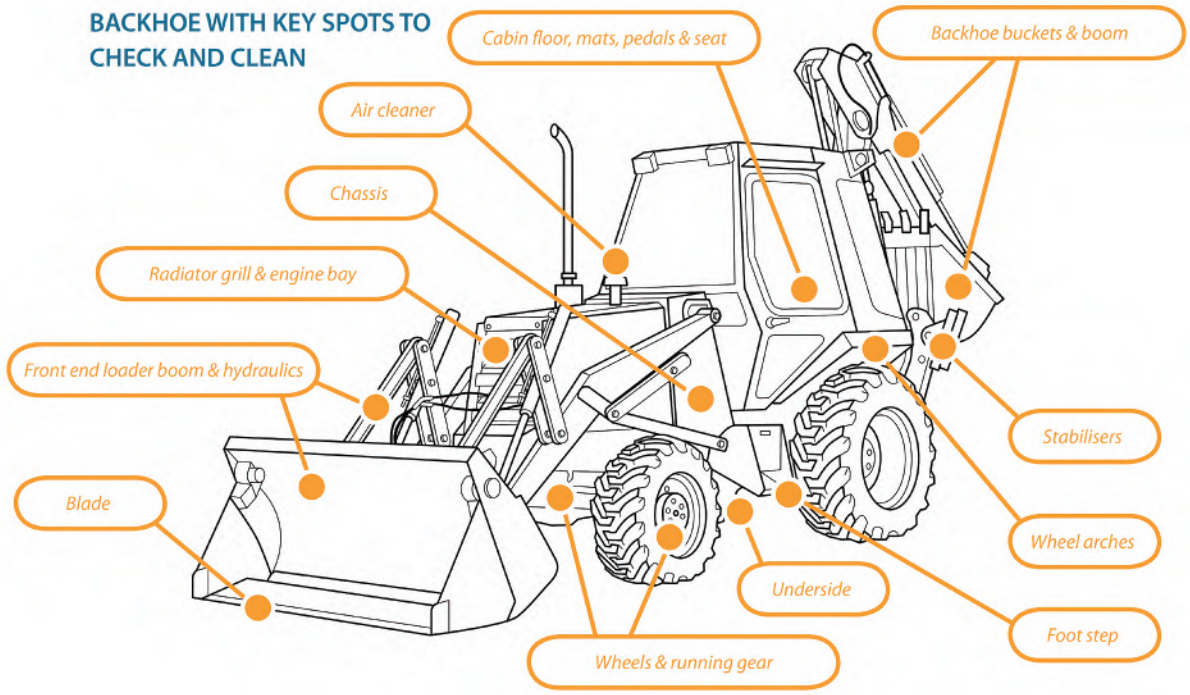
Excavator

EXCAVATOR WITH KEY SPOTS TO CHECK AND CLEAN



		✓
Cabin	Floor, mats, pedals, seats	
Engine	Radiators, engine bay, grill, air cleaner	
Tracks	Tracks, track frame, drive sprocket rollers, idlers	
Body Plates	Plates of cabin	
Body	Ledges, channels	
Bucket		
Booms		
Turret Pivot		

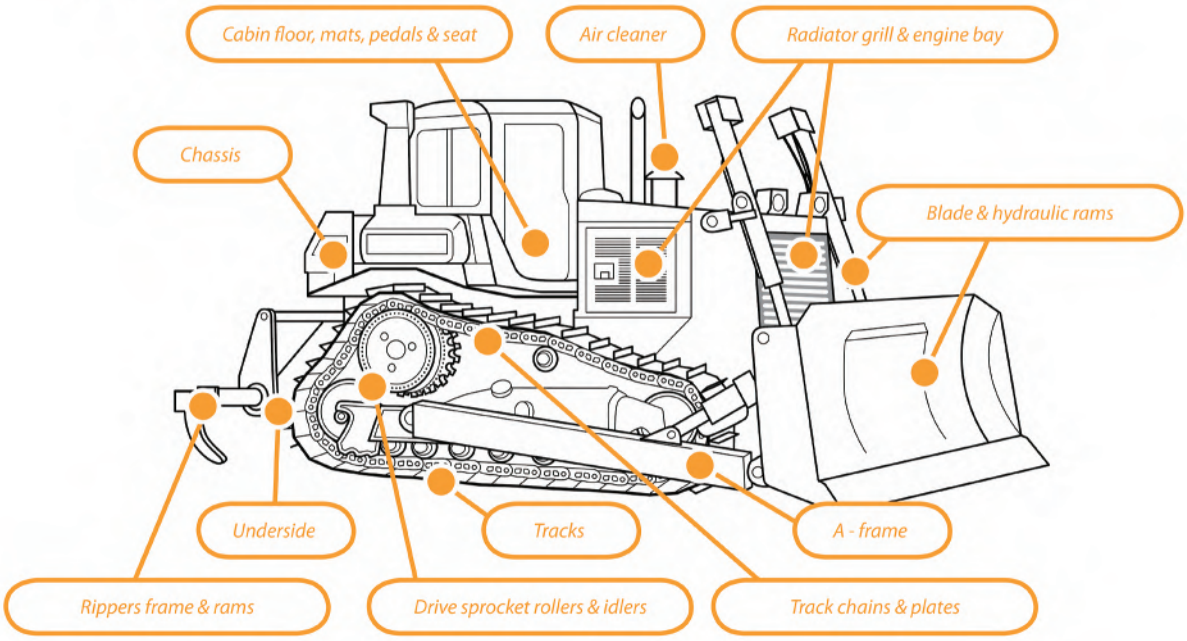
Backhoe



		✓
Cabin	Floor, mats, pedals, seats, foot step	
Engine	Radiators, engine bay, grill, air cleaner	
Wheels	All wheels (including spare), wheel arches, guards	
Front end loader	Blade, hydraulics, booms	
Backhoe	Buckets, boom, hydraulics, stabilizers	

Bulldozer

BULLDOZER WITH KEY SPOTS TO CHECK AND CLEAN



		✓
Cabin	Floor, mats, pedals, seats	
Engine	Radiators, engine bay, grill, air cleaner	
Tracks	Tracks, track frame, drive sprocket rollers, idlers	
Body Plates	Belly plates and rear plates	
Body	Ledges, channels	
Blade	Pivot points, hydraulic rams, a-frame	
Ripper	Ripper frame, ripper points	

Contacts and Resources

Ontario Invasive Species Strategic Plan 2012. Government of Ontario. Online, accessed May 8, 2012.
http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@biodiversity/documents/document/stdprod_097634.pdf

Invasive Species Management for Infrastructure Managers and the Construction Industry 2008. Wade, M. Booy, O. and White, V. Online, accessed April 27, 2012
http://www.ciria.org/service/Web_Site/AM/ContentManagerNet/ContentDisplay.aspx?Section=Web_Site&ContentID=9001

T.I.P.S (Targeted Invasive Plant Solutions) Highway Operations. British Columbia Invasive Species Council. Online, accessed May 8, 2012
http://www.bcinvasiveplants.com/iscbc/publications/TIPS/Highways_Operations_TIPS.pdf

Invading Species Awareness Program Workshop Manual: Aquatic Invasive Species: An Introduction to Identification, Collection and Reporting of Aquatic Invasive Species in Ontario Waters (includes information on decontaminating equipment).
http://www.invadingspecies.com/download/publications/manuals/WorkshopManual.pdf

Reporting Invasive Species

To report invasive species, or view maps of existing records, visit the Invading Species Awareness Program website www.invadingspecies.com/report/ or www.eddmaps.org/Ontario.

Or call the OFAH/MNR Invading Species Awareness Program Hotline at **1-800-563-7711**

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Clean Equipment Protocol Working Group:

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More Information:

Ontario Invasive Plant Council: www.ontarioinvasiveplants.ca

Appendix A: Identification of Invasive Plants found in Ontario

- **Common Buckthorn** (*Rhamnus cathartica*) and **Glossy Buckthorn** (*Frangula alnus*)
- **Dog-strangling Vine** (*Cynanchum rossicum*)
- **Garlic Mustard** (*Alliaria petiolata*)
- **Japanese Knotweed** (*Polygonum cuspidatum*)
- **Phragmites or Common Reed** (*Phragmites australis subsp. australis*)
- **Giant Hogweed** (*Heracleum mantegazzianum*)

common & glossy buckthorn

(Rhamnus cathartica & R. frangula)

Plant type: Shrub/small tree

Arrangement: Common buckthorn are sub-opposite (almost opposite). Glossy buckthorn are alternate.

Leaf: The common buckthorn leaf is egg shaped, edge of the leaf is "pebbled" (small rounded teeth). Veins converging toward leaf top. The glossy buckthorn leaf is more slender (tear drop shaped) and smooth margined.

Bark: Smooth, young bark with prominent raised patches or lenticels; rough texture and peeling bark when mature.

Seed/Flowers: Flowers are green-yellowish, small and inconspicuous. Green berries becoming purplish/black in late summer, berry > 1 cm in diameter.

Buds/Twigs: Common buckthorn has thorn-like tip on many twigs. Glossy buckthorn buds have no bud scales and lack thorny tips to twigs.

Habitat: Various - forest, thickets, meadows, dry to moist soils.

Similar native species: Native dogwoods, which lack the thorny "tip". Native dogwoods are truly opposite in arrangement of twigs; only alternate leaved (pagoda) dogwood has alternate branching.

dog-strangling vine
(Cynanchum rossicum & C. nigrum)

Plant type: Herb, twining vine

Arrangement: Opposite

Leaf: Lance shaped, smooth margin (edge)

Bark: n/a

Seed/Flowers: Bean shaped seed pod with seeds attached to downy 'umbrellas'. Flowers - pink (C. rossicum) or purple (C. nigrum) with five petals.

Buds/Twigs: n/a

Habitat: Dry to moist soils; more dominant in meadows and woodland edges.

Similar native species: Swamp milkweed (Asclepias incarnata spp.), is an upright plant, typically found in wetland habitats.

garlic mustard
(Alliaria petiolata)

Plant type: Herb

Arrangement: Alternate

Leaf: Saw tooth like edge, elongated heart shape. Garlic/onion smell when crushed. Leaves are kidney shaped with prominent veins.

Bark: n/a

Seed/Flowers: Cluster of small white flowers with four petals. Small black < 1 mm rounded seed found in elongated 'tube-like' seed pods (similar to a bean pod).

Buds/Twigs: n/a

Habitat: Various – dry to moist soils, in all habitat types, less often in meadows.

Similar native species: n/a

japanese knotweed
(Polygonum cuspidatum)

Plant type: Herb, 2 - 4 m in height.

Arrangement: Alternate

Leaf: Tear drop shaped, sharp pointed, dark green, flattened at base.

Bark: n/a

Seed/Flowers: Flowering stalk of many small greenish-white flowers.

Buds/Twigs: Large plant with a 'bamboo-like' stem. Stem light green maturing to tan colour.

Habitat: Moist to wet soils found in wetlands, water-courses and roadside ditches.

Similar native species: None.

common reed
(Phragmites australis)

Plant type: Grass

Arrangement: Alternate

Leaf: Broad leaf > 1 cm wide.

Bark: n/a

Seed/Flowers: Dense cascading 'broom-like' flower head. 'Cottony' in appearance when mature.

Buds/Twigs: Stems rough and ridged, ligule a densely hairy band. Mature plants > 3 m tall.

Habitat: Moist to wet soils. Found in wetlands, water- courses and road side ditches.

Similar native species: Species of mannagrass (Glyceria sp) including tall northern, eastern and rattlesnake grass. A native common reed exists but has a smooth stem and the ligule is not hairy. It is also quite rare.

giant hogweed
(Heracleum mantegazzianum)

Plant type: Herb. Mature plants can be over 3m tall.

Arrangement: Alternate

Leaf: Lobed leaf 1-2 m wide, lobes sharp-pointed.

Bark: n/a

Seed/Flowers: Small, white flowers in a large umbrella-shaped cluster, .75 m wide.

Buds/Twigs: Hairy stem with purple spots.

Habitat: Fresh to wet soils in forests, swamps, meadows, marshes.

Similar native species: Cow parsnip *(Heracleum maximum)* – has smaller flowers, no purple spots on stems.Angelica (Angelica atropurpurea) has a rounded-topped flower cluster and leaves divided into many leaflets.

Do not touch this plant because it is poisonous. If you do, wash your skin immediately in cool soapy water and do not expose the area to sunlight.

Seek professional advice before removing.

Identification of Invasive Plants found in Ontario Photos by:

Credit Valley Conservation, Greg Bales, Ken Towle, Patrick Hodge,
Ontario Federation of Anglers and Hunters, Francine Macdonald, Matt Smith

Ontario
Invasive Plant Council