



Muncaster
Environmental
Planning Inc.

September 18, 2018

Mr. Chris Collins
Manager of Planning and Land Development
Cavanagh Developments
c/o Thomas Cavanagh Construction Ltd.
9094 Cavanagh Road
Ashton, Ontario
K0A 1B0

Dear Chris:

RE: 2596 Carp Road
Tree Conservation Report and Environmental Impact Statement

A cement plant, with associated surface parking, processing areas, and other infrastructure is proposed for the centre of the overall approximately 28.4 hectare site to the east of Carp Road and 300 metres north of Richardson Side Road. The site is described as part of Lot 6, Concession 2 of Huntley Geographic Township.

For the purposes of this report Carp Road is considered to be in a north-south orientation.

Study Area Context

The site and adjacent lands were generally in agricultural use until the 1990s, with a combination of residences, commercial and industrial uses along the Carp Road corridor. In the 2000s the site outside of the Huntley Creek corridor appears disturbed with many areas stripped of topsoil. The existing residence south of the creek corridor was constructed in the early 2000s along with storage and other buildings north of the creek. A rural residential development is to the east of the site, with access off Oak Creek Road. A large forested area, including the Huntley Creek corridor, is to the north of the site, with many industrial operations and rural residences along Richardson Side Road to the south. As shown on Map 1, the forests along the Huntley Creek corridor and to the north of the site are part of the City's Natural Heritage System, as shown on the Schedule L3 Overlay of the Official Plan. The forested areas along Huntley Creek and to the north are also part of the Huntley Natural Area, identified as Natural Area 417 in the former Region of Ottawa-Carleton's Natural Environment System Strategy (White, 1997). This 85 hectare Natural Area was assigned a low overall assessment, with none of the eight evaluation criteria scoring above average. Two evaluation criteria (rare vegetation community/landform representation, and vegetation community/landform diversity) were scored as moderate, with the balance of the evaluation criteria given a low score or not rated. No large-scale linkages were identified for the Huntley Natural Area by White (1997), with no endangered, threatened or rare

species noted. The regionally rare vegetation community/landform types identified by White (1997) for the overall Natural Area were not observed on or adjacent to the site. No specific seasonal wildlife concentrations were reported and the extent of site fragmentation was considered moderated. White (1997) summarized the Huntley Natural Area as a range of mixed forest communities that appears to have been much disturbed.

No Provincially Significant Wetlands or Areas of Natural and Scientific Interest are in proximity to the site. Outside of the Huntley Creek corridor, no channels with aquatic habitat potential were observed or are mapped on the site. A scratch ditch is to the north of the existing access off Carp Road, beginning about 150 metres east of Carp Road and continuing to the east. The ditch was constructed when the road was installed in the early 2000s and had no defined connection to Huntley Creek. The scratch ditch was considered to have no aquatic habitat potential due to the lack of flowing water, significant areas of standing water, a connection to downstream habitat, a defined low flow channel, or in-stream aquatic habitat structure.

The Carp River Watershed/Subwatershed Study (Robinson, 2004) considered Huntley Creek to be a natural stream, with good water quality and coldwater fish habitat. The creek corridor was also considered to be a Centre of Ecological Significance and a 'priority one stream reach' for control of livestock and manure runoff. Most of the site was considered to be a high or moderate recharge area by Robinson (2004). A water balance for the site has been completed by Golder (2018). The forests along Huntley Creek were identified as areas of rare vegetation and older than 50 years of age by Robinson (2004). No forest interior habitat was identified by Robinson (2004) on or adjacent to the site, however as discussed below some forest interior habitat is present to the north of the site.

The site and adjacent rural lands are zoned *Rural General Industrial*, except the east portion of the site, which is not included in this development proposal, which is zoned *Rural Countryside*. The west and central portions of the site are designated *Rural Employment Area* on Schedule A of the Official Plan, with the east portion designated *General Rural Area*. Unstable slopes are identified along Huntley Creek on and adjacent to the site on Schedule K of the Official Plan, with organic soils mapped to the northeast of the site, but not on the site itself.

Proposed Development

As shown on Map 2, a concrete mixing plant is proposed for the central portion of the overall site. The development will include a mixing plant building, material stockpile areas and an area designated for employee parking. The existing residence to the south of Huntley Creek is to remain and be used as an administration building for the plant. The site will be accessed by a new access road connection to Carp Road. The connection to Carp Road will be of similar location to the existing gravel access road currently used for the property. Surface parking will be provided for employees, and to the southeast of the plant the ready-mix trucks. Wash racks and a washout pond will be adjacent to the plant, along with storage areas for sand and coarser material to the south of the plant. The existing septic system and water well will continue to service the existing building, with a new septic system and drilled water wells required for the cement plant. No water will be taken directly from Huntley Creek. Field tests completed by Golder (2018) to establish the water yield which can be generated from on-site wells determined

that two on-site wells would be required to meet the water demand of 210 L/min for 12 hours/day or about 150,000 L per day.

As outlined in Robinson (2018), Mississippi Valley Conservation Authority was consulted and requested that the following design details be implemented for the proposed development:

- Provide enhanced (Level 1) quality control (80 percent total suspended sediment removal);
- Provide thermal temperature control to 25 °C; and,
- No new development should occur within the floodplain or meander belt hazards.

To meet the enhanced quality control requirement, two bioretention facilities in combination with vegetated swales will be utilized across the site to capture stormwater runoff and provide cleansing prior to discharge into Huntley Creek. Bioretention temporarily stores, treats and infiltrates/filtrates surface runoff. Infiltration of stormwater from the bioretention facilities will occur in under 24 hours (Robinson, 2018). Section 7.2 of Robinson (2018) provides details of the bioretention facilities and associated specifications. In addition to the quality treatment provided by the bioretention facilities themselves, the plant's stormwater runoff will also experience quality cleansing via pre-treatment methods. Along the outer perimeter of the concrete mixing plant portion of the site, a 3.0 metre wide pre-treatment area has been provided (blue polygon on Map 2). The rip-rap pre-treatment strip will function as an energy dissipater and a "settling basin" for larger sediments for the site's runoff prior to entering the bioretention facilities (Robinson, 2018). The rip-rap strip will also function as an erosion control.

The stormwater runoff from the access road will be "treated" by grassed roadside ditches, a rip-rap treatment strip and a vegetated swale (Robinson, 2018). As assessed by Robinson (2018) adequate water quality storage volume will be provided within the multiple layers of the bioretention facilities. The depth of each layer will vary from facility to facility based on the storage requirements and the localized constraints (Robinson, 2018).

Methodology

This EIS was prepared in accordance with Section 4.7.8 of the City of Ottawa Official Plan (2010) following the EIS Guidelines and the Guidelines for City of Ottawa Tree Conservation Report, found at <http://ottawa.ca/en/city-hall/planning-and-development/official-plan-and-master-plans/official-plan/volume-1-official-0#4-7-8-environmental-impact-statement> and http://ottawa.ca/en/env_water/tlg/trees/preservation/guidelines/index.html, with guidance from the Natural Heritage Reference Manual (OMNR, 2010). This report includes the components of an Environmental Impact Statement as identified in Sections 4.7.8.11 a) through i) of the City of Ottawa Official Plan (City of Ottawa, 2010).

The major objective of this EIS is to determine the features and functions of the on-site and adjacent natural environment conditions and to assess the anticipated impacts associated with the proposed rural industrial development on these features and functions.

The following items were identified for particular attention in this EIS, recognizing that many of these issues are interrelated:

- what are the terrestrial habitat features of the proposed industrial site and adjacent lands and the associated sensitivities? Will significant natural heritage features such as Significant Woodlands or Significant Valleylands be impacted? Which areas are recommended for tree retention?
- what are the recommended mitigation measures to ensure that there are no unacceptable impacts on any significant natural heritage features? and,
- does the site support any other natural heritage features, including Species at Risk, that should be considered in the development of the site?

Colour aerial photography (1976 – 2017) was used to assess the natural environment features in the general vicinity of the site. Field reviews were completed on November 3rd, 2015 from 13:00 to 16:20 under partly cloudy skies, an air temperature of 17 °C, and a light to moderate breeze; September 11th, 2017 from 10:40 to 13:00, with a light breeze, sunny skies, and an air temperature of 19 °C, and June 10, 2018 from 08:10 to 10:40, under sunny skies, an air temperature of 16 – 21 °C, and winds varying between calm and a light breeze. During each survey the proposed development area and adjacent lands were systematically walked to ensure all areas were observed.

The field surveys and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty years of experience in completing natural environment assessments. The purpose of the Tree Conservation Report component is to establish which vegetation should be retained and protected on the site. The owner of the site is Cavanagh Developments. Removal of woody vegetation not identified in this report for retention will be limited and is proposed for 2019, outside of the breeding bird season between April 15th and August 15th.

Existing Conditions

The topography of the site is generally level with a gentle slope to the north and east in places. The native soils on site were mapped as sandy loams with a range of drainage characteristics, and an extensive depth of overburden to bedrock (Schut and Wilson, 1987). The site appeared to be in agricultural use until the late 1990s when much of the topsoil appears to have been stripped. Gemtec (2018) noted fill material, including construction debris, in the four boreholes in the central and west portions of the site. Old electric fences suggest the site was used for pasture at one time. Now the majority of the site outside of the Huntley Creek corridor is regenerating meadow and thicket habitat. Soil sifting equipment is visible on the 2005 aerial photography in the southwest portion of the site and on 2008 aerial photography in the south-central portion.

Native soils on the site were a combination of sand, silty sand, and glacial till as described by Gemtec (2018), with the glacial tills found in the central and southeast portions of the site. Bedrock was encountered by Gemtec (2018) between 2.7 and 2.9 metres below ground surface at several boreholes. Gemtec (2018) observed groundwater levels in boreholes between 0.7 and 1.5 metres below ground surface.

A pond, created in the 1990s likely as material was excavated, is in the south portion of the Huntley Creek corridor, about 100 metres east of the existing residence. Spoil piles were extensive around the pond perimeter. No other wetland habitat was observed outside of Huntley Creek itself.

Huntley Creek Corridor

The Huntley Creek corridor will not be directly disturbed by the proposed development, with no site alterations within 15 metres of the meander belt corridor as shown on Map 2. The closest site alteration will be approximately 80 metres from the normal high water mark of Huntley Creek. Huntley Creek is described by Robinson (2004) as a natural stream with good water quality and coldwater fish habitat. There is excellent canopy cover through the north-central portion of the site from the upland cedar forest described below (Photo 12). None of the woody vegetation along the creek corridor will be disturbed. The exposed substrate for fish and invertebrate habitat is a diverse combination of boulders and cobble of various sizes and finer material (Photo 13). Caddisfly cases were common on the underside of the cobble and fingernail clams were common. Many sticklebacks and other forage fish were observed in the clear water of the creek. Some silt covering was noted on the coarser material but the extent of fines appeared to be generally minimal. Habitat structure included aquatic vegetation large and small woody debris, the boulders and undercut banks with root wads. No other channels with aquatic habitat potential were observed on or adjacent to the site.

An upland white cedar coniferous forest is along the Huntley Creek corridor to the north and northeast of the proposed plants (Photo 10). The forest provides excellent canopy cover for the creek. White cedars up to 38cm diameter at breast height (dbh) are dominant, with bur oak, white ash, basswood, Manitoba maple, and white birch also present. A couple of the bur oak were very large, up to 100cm dbh (Photo 11), with white ash up to 60cm dbh and basswoods along the forest edges up to 48cm dbh. White ash, white pine, and apple were more common along the forest periphery, with many of the ash trees in poor condition with trunk damage and reduced leaf-out. The understory of the cedar forest included glossy buckthorn, prickly ash, nannyberry, and red raspberry. Ground flora in the coniferous forest included eastern bracken, marginal woodfern, helleborine, barren strawberry, Canada mayflower, white snakeroot, red baneberry, jack-in-the-pulpit, sensitive fern, lady fern, tall meadow rue, blue violet, yellow violet, Pennsylvania sedge, field horsetail, enchanter's nightshade, common burdock, early goldenrod, and wild grape. Ostrich fern was dominant in areas closer to the Huntley Creek.

An area of cultural thicket is to the east of the coniferous forest described below along the Huntley Creek corridor. Common buckthorn, glossy buckthorn and apple are the dominant shrub species with red raspberry, speckled alder and red-osier dogwood shrubs also present. Regenerating white spruce and Manitoba maple stems are scattered through the cultural thicket habitat along with white ash stems between 12 and 45cm dbh.

Further to the east, a cultural woodland is along the Huntley Creek corridor (Photo 6). Mature crack willow up to 80 cm dbh were along the creek banks. White ash up to 55cm dbh and white elm up to 20cm dbh were common along with common buckthorn, prickly ash, speckled alder,

and red raspberry shrubs. Ground flora in the cultural woodland included virgin's bower, motherwort, yellow violet, Canada anemone, lady fern, garlic mustard, wild parsnip, thicket creeper, field horsetail, tall meadow rue, tall buttercup, common plantain, Canada goldenrod, tall goldenrod, Canada thistle, sensitive fern, and white snakeroot.

Cultural thickets are also in the east portion of the overall site, east of the development area. Hawthorn, red raspberry, and nannyberry shrubs are common, along with regenerating stems of white spruce, white pine and white elm up to 17cm dbh. Scattered white ash are up to 25cm dbh. A row of planted Colorado spruce in this area is shown as a coniferous hedgerow on Map 1.

Development Portion of the Site

Cultural Meadow

As indicated above, much of the development portion of the site appears to have been stripped of topsoil. Canada goldenrod, late goldenrod, narrow-leaved goldenrod, common dandelion, white-sweet clover, red clover, common ragweed, horseweed, wild carrot, colt's-foot, asparagus, curled dock, common milkweed, Canada thistle, brome grass, June meadow grass, bluegrass, reed canary grass, timothy, orchard grass, barnyard grass, green foxtail, European bur-reed, lady's thumb, common plantain, lesser stitchwort, hoary alyssum, white bedstraw, wild parsnip, cow vetch, crown vetch, New England aster, panicled aster, calico aster, purple loosestrife, chicory, common mullein, yellow goat's-beard, common burdock, blue vervain, everlasting pea, bladder campion, field sow-thistle, wormseed mustard, field mustard, tall buttercup, path rush, common yarrow, evening primrose, bird's-foot trefoil, and common mugwort were typical of the vegetation regenerating in the cultural meadow habitats (Photos 1 - 3).

Regenerating woody vegetation was common in the meadow habitat including sugar maple, Manitoba maple, white ash, eastern cottonwood, trembling aspen, and black locust up to 10cm dbh. Staghorn sumac, tartarian honeysuckle, Bebb's willow, slender willow, glossy buckthorn, and common buckthorn shrubs were common in much of the open areas. A couple of mature deciduous trees are in the cultural meadow habitat including basswood and bur oak up to 60cm dbh. The basswood had major limb damage. White cedars up to 25cm dbh were also present.

Cultural Thicket

Common and glossy buckthorn were dominant in many areas of the cultural thickets, with staghorn sumac well represented in many areas, and prickly ash, Bebb's willow, and red raspberry also present (Photos 3 and 4). Manitoba maple, white elm, tamarack, poplar and bur oak stems up to 12cm dbh were abundant in areas, with a few eastern cottonwood and white pine up to 28cm dbh. Ground flora included thicket creeper, everlasting pea, wild cucumber, and purple-flowering raspberry.

Cultural Woodland

Areas of cultural woodlands are in the southwest portion of the site (Photo 5). White ash and Manitoba maple are dominant, with green ash, balsam poplar, and crack willow well represented. The largest trees were crack willows in the 30cm dbh range. White cedars up to 18cm dbh were

dense in the centre of portions of the cultural woodlands. Thicket creeper coverage was extensive on many of the cedars. Otherwise the trees appeared to be in generally good condition. Shrubs in the understory included staghorn sumac, Japanese knotweed, and red-osier dogwood, with regenerating Manitoba maple and poplar stems also present. In addition to thicket creeper, New England aster, pearly everlasting, common burdock, Canada thistle, reed canary grass, orchard grass, meadow grass, common mugwort, dame's rocket, hedge bindweed, bladder campion, common milkweed, common dandelion, lesser stitchwort, wild grape, sensitive fern, and field horsetail were representative of the ground flora.

Hedgerows

Deciduous hedgerows are adjacent to the east portion of the south site boundary, with most of the tree trunks in the east hedgerow immediately to the south of the site, south of a page fence. White ash was dominant, with trembling aspen, apple and Manitoba maple present in the east portion of the hedgerow, with bur oak and white elm in the west portion. The largest trees were ash in the 50cm dbh range. Many of the ash were in very poor condition with reduced leaf-out and broken trunks. Grape coverage was present on many of the lower tree limbs. Common buckthorn and small white elm stems were well represented among the deciduous hedgerow trees. Staghorn sumac, prickly ash, red-osier dogwood, and chokecherry shrubs were also present, along with regenerating bur oak and Manitoba maple stems.

Further west a row of planted white spruce up to 25cm dbh was near the southeast site boundary (Photo 9). A couple of planted Colorado spruce of similar size were at the west end of the coniferous hedgerow. To the west, and just to the south, of the coniferous hedgerow was an intermittent deciduous hedgerow of white elm up to 25cm dbh, with white ash also well represented (Photo 7). Tartarian honeysuckle, prickly gooseberry, and staghorn sumac shrubs were among the hedgerow trees, along with regenerating bur oak and Manitoba maple stems. Poison ivy was a dominant ground flora.

Crack willow, trembling aspen, and Manitoba maple were dominant in a deciduous hedgerow in the northwest corner of the site. Willows up to 50cm dbh, along with smaller Manitoba maple will be removed for the road access east of Carp Road (Photo 8). Red raspberry and black currant shrubs were common in this area along with regeneration white ash stems. Thicket creeper dominated the ground flora, with field horsetail well represented.

Adjacent Lands

A mixed forest is adjacent to the central and west portions of the north site boundary. The trembling aspen, white ash, white elm, Manitoba maple, white cedar, basswood, and white spruce trees along and adjacent to the property line were smaller, less than 25cm dbh. Common buckthorn, Bebb's willow, and apple shrubs were also along the property line. A young deciduous forest is to the east of the southeast portion of the site. Few trees were along the west edge of this forest, with eastern cottonwood, red maple, and white birch in the 18cm to 25cm dbh range noted. No forests or larger trees are adjacent to the other site boundaries, with an access road present to the south of the east portion of the site.

Wildlife observations during the field surveys included American crow, Canada goose, ring-billed gull, great-blue heron, turkey vulture, northern flicker, pileated woodpecker, downy woodpecker, ruffed grouse, European starling, common grackle, American robin, blue jay, black-capped chickadee, alder flycatcher, red-eyed vireo, common yellowthroat, yellow warbler, yellow-rumped warbler, red-eyed vireo, American goldfinch, northern cardinal, dark-eyed junco, song sparrow, white-throated sparrow, northern leopard frog, woodchuck, red squirrel, and white-tailed deer tracks. Green frogs were heard from the dug pond in the south portion of the Huntley Creek corridor, east of the existing residence. No stick nests or other evidence of raptor use were observed on or adjacent to the site and no stone fences were noted. Scattered blast rock in a couple of areas on the site were not consolidated and did not appear suitable for snakes. Noise from the recycling plant to the southwest was fairly constant over much of the site.



*Photo 1 – Cultural meadow habitat in the west portion of the site.
View looking west from the central portion of the site*



*Photo 2 – Cultural meadow habitat in the central-east portion of the site.
View looking west, with mature bur oak in the background*



*Photo 3 – Cultural thicket and meadow habitat in the central portion of the site.
View looking east*



*Photo 4 – Cultural thicket in the central portion of the site.
View looking west*



*Photo 5 – Small area of cultural woodland in the west corner of the site.
View looking west*



Photo 6 – Cultural woodland on the south side of the Huntley Creek corridor in the east portion of the overall site. Many of the ash with very little leaf-out on June 10th. View looking northeast



Photo 7 – Intermittent deciduous hedgerow along the south edge of the site. View looking east



Photo 8 - Mature crack willow in north-south deciduous hedgerow in the northwest corner of the site along the proposed access from Carp Road



Photo 9 – Planted white spruce in an east-west coniferous hedgerow in the southeast portion of the site. View looking east



Photo 10 – Typical upland cedar coniferous forest along the south side of the Huntley Creek corridor. View looking east



Photo 11 – Mature bur oak along south edge of Huntley Creek. View looking east



Photo 12 – Canopy cover is excellent along Huntley Creek in the north-central portion of the overall site. View looking east



Photo 13 – Woody debris, undercut banks, cobble and aquatic vegetation provide a good diversity of instream aquatic habitat structure in Huntley Creek. This example is in the northeast portion of the overall site

Significant Woodlands and Valleylands

As the site is in the rural portion of the City of Ottawa, the significance of woodlands is evaluated using the criteria in the Natural Heritage Reference Manual (OMNR, 2010). The on-site and adjacent contiguous forests to the north would be considered significant due to the presence of significant fish habitat within Huntley Creek, a significant natural heritage feature within 30 metres of the forest, the overall contiguous forest size which is greater than 50 hectares, and interior forest habitat to the north of the site. No forest interior habitat is on the site itself. In addition, the Huntley Creek corridor would be considered a significant valleylands due to the slope of the corridor cross-section, a watercourse supporting sensitive fish habitat, and well-treed valley slopes.

Significant Wildlife Habitat

The potential for significant wildlife habitat is assessed using the guidance in OMNR (2010) and MNRF (2015). Potential components which may lead to a designation of significant wildlife habitat include seasonal concentration areas of animals, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern, and animal movement corridors.

As there is no forest interior habitat onsite, eastern wood pewee and wood thrush, both Species of Special Concern, are not anticipated to be on the site but may be in the forests to the north of the site. No habitats of Species of Conservation Concern were present as the indicator species associated with marsh, open country or shrub/early successional breeding bird habitat were not observed. No Provincially rare species were observed. No evidence of animal movement corridors, such as those for deer or amphibians, were noted.

Other field observations would not trigger a significant wildlife habitat designation with respect to the ELC communities present. For example, the cultural habitats do not support waterfowl stopover or staging areas, colonial nesting bird breeding habitat or other examples of seasonal concentration areas. No rare vegetation communities as noted in MNRF (2015) or rare or specialized habitats were observed. No wetlands with the potential to support amphibians were observed on the site outside of Huntley Creek. The forests and adjacent cultivated fields and cultural woodlands do not appear to support raptor wintering areas, old growth forest is not present, and the onsite forests are not large enough to meet the size criterion for deer winter congregation areas. No seeps or springs, potential bat hibernacula or maternity colonies, or suitable turtle nesting or wintering areas were observed. Stone piles and areas of broken and fissured rock for potential use by snakes, including potential reptile hibernaculum, were not observed. The on-site forests are too small to meet the criterion in MNRF (2015) for area-sensitive bird breeding habitat, although such habitat is to the north of the site.

No large-scale linkages were associated with the Huntley Natural Area (White, 1997). The many industrial and commercial operations along the Carp Road corridor and cultivated lands and large aggregate operations further from the site have greatly reduced the potential linkage functions of the general area, including very minimal natural setbacks along Huntley Creek further north of the site on the east side of Carp Road.

Species at Risk

The Ministry of Natural Resources and Forestry's Make a Map: Natural Heritage Areas website (www.giscoeapp.lrc.gov.on.ca/web/MNR/NHLUPS/NaturalHeritage/Viewer/Viewer.html) allows for a search of Threatened and Endangered species covered by the 2008 *Endangered Species Act*, as well as other species of interest. A search was conducted on the 1 km squares including the site and adjacent lands (18VR21-36 and - 46). One Species at Risk was identified for the 1 km squares, loggerhead shrike. Loggerhead shrike utilizes grazed pasture lands with short grass and scattered shrubs, especially hawthorn; habitat not present on the site. No loggerhead shrike have been reported in the City of Ottawa in about 15 years.

The Breeding Bird Atlas results for the 10 km square 18VR21 were reviewed, with the threatened bobolink, eastern meadowlark, barn swallow, bank swallow, and eastern whip-poor-will reported for the overall 10km square. Bobolink and eastern meadowlark utilize larger areas of grasslands, including hay fields. The meadow habitats are extensive but have not been used for hay and contain too much woody vegetation to represent suitable nesting habitat for these grassland Species at Risk. No structures are present on the site that may be used for nesting by barn swallow (barns, garages, and other structures with access to open rafters) or chimney swift (open unlined chimneys). Bank swallow is a colonial nester; burrowing in eroding silt or sand banks and sand pit walls; habitat not observed on or adjacent to the site. Eastern whip-poor-will utilize rock or sand barrens with scattered trees, savannahs, old burns, or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations. The understory of the on-site forests appeared too thick for eastern whip-poor-will utilization.

Other potential Species at Risk identified in the general area in October 20th, 2017 correspondence from the Kemptville District Office of the Ministry of Natural Resources and Forestry included Blanding's turtle and butternut. Any turtle activity is anticipated to be confined to the Huntley Creek corridor and there are no wetlands to the east, south, or west that Blanding's turtle may be travelling to via the site. Butternut is found in a variety of habitats in eastern Ontario. No butternuts were observed on or adjacent to the site.

The potential Species at Risk in the City of Ottawa were also reviewed. Many endangered and threatened species have historically been reported in the overall City, including butternut, American ginseng, eastern prairie fringed-orchid, wood turtle, spiny softshell, Blanding's turtle, Henslow's sparrow, loggerhead shrike, little brown myotis, northern long-eared bat, mottled duskywing, eastern small-footed myotis, olive hickorynut, chimney swift, eastern meadowlark, barn swallow, bank swallow, bobolink, eastern whip-poor-will, bald eagle, golden eagle, cerulean warbler, least bittern, eastern cougar, lake sturgeon, and American eel.

The habitat requirements of the above species along with those listed as special concern were reviewed. No snags/cavity trees that may be used by bats as summer roosting areas were noted on or adjacent to the areas proposed for development. Butternut is considered to have potential to be on or adjacent to the site. As indicated above, no butternuts were observed on or adjacent to the site.

Impact Assessment and Recommendations

The Huntley Creek corridor is a significant natural heritage feature with sensitive fish habitat, significant woodlands, and significant valleylands. The site plan for the cement plant has been designed to retain the Huntley Creek corridor, including the woody vegetation. The limit of development has been determined by the potential setback furthest from the channel, which is the meander belt corridor and an associated 15 metre regulatory limit, as shown with pink lines on Map 2. This is greater than the 30 metre normal high water setback identified in the Official Plan or the floodplain. The closest site alteration will be approximately 80 metres from the normal high water mark of the Huntley Creek. No tributaries of Huntley Creek with aquatic habitat potential were observed or are mapped for the site.

The hydrogeological analysis by Golder (2018) concluded that the water use would not impact the baseflows of Huntley Creek. Based on the results of the aquifer testing program, Golder (2018) do not anticipated that the water taking from the bedrock aquifer for the operation of the concrete plant will adversely impact shallow groundwater levels or surface water levels in the vicinity of Huntley Creek. The shallow groundwater levels in the vicinity of Huntley Creek did not respond to pumping at test wells and the existing residence well.

In terms of water balance, before mitigation Golder (2018) concluded that between pre- and post-development conditions, the infiltration on the site is estimated to decrease by ten percent and the runoff is estimated to increase by 34 percent without mitigation. However, the bioretention facilities including the vegetated swales will capture runoff from the concrete plant site for precipitation events under 27mm or the first 27mm of higher intensity precipitation events (Golder, 2018). Based on historical events, Golder (2018) concluded that 82 percent of the annual surplus from the concrete plant site will be available for infiltration through the bioretention facilities. Thus, considering the mitigated post-development annual water balance, Golder (2018) concluded the infiltration on the site is estimated to increase by 19 percent and the runoff is estimated to increase by one percent.

Gemtec (2018) concluded that they have no concerns with impacts from the proposed development on the global stability of the slope associated with the Huntley Creek corridor.

No Species at Risk are expected to have the potential to be on or adjacent to the site other than butternut, which was not observed on or adjacent to the site.

As noted above, the Conservation Authority requires thermal temperature control to 25 °C due to the proximity to Huntley Creek. The following features have been included in the design by Robinson (2018) to meet the temperature control requirements:

- Utilization of bioretention facilities over pond facilities limits the opportunity to heat up the stormwater before it enters Huntley Creek;
- Utilization of bioretention facilities allows stormwater to infiltrate into the cooler soils limiting the opportunity to heat up before it enters Huntley Creek;
- The layers of the bioretention facilities (specifically the gravel storage layer) promotes the cooling of stormwater prior to infiltrating into the native soils (and ultimately into Huntley Creek); and,

- Plantings contained within the vegetated swales provide a degree of shading which limits the opportunity to heat up the stormwater.

Tree removal for the cement plan will be minimal, with areas of tree retention shown on Map 2. Retained trees that are in close proximity to the limit of development are to be protected with sturdy construction fencing at least 1.3 metres in height along the tree's critical root zones (defined as ten times the trunk diameter). Signs, notices, or posters are not to be attached to any tree. No grading, heavy machinery traffic, stockpiling of material, machine maintenance and refueling, or other activities that may cause soil compaction are to occur within three metres of the critical root zone of the trees to be retained and protected. The root system, trunk, and branches of the trees to be retained are to be protected from damage. If roots of retained trees are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap, or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Exhaust fumes from all equipment during construction will not be directed towards the canopy of adjacent retained trees.

All of the supports and bracing for the protective fencing should be placed outside of the protected area and installed in such a way as to minimize root damage. Also, since the desired effect of the barrier is to prevent construction traffic from entering the critical root zone, the barrier should be kept in place until all site servicing and house construction has been completed.

There are no planting sensitivities identified for the site. Plantings of native trees and shrubs can occur in the vegetated swales and in open areas of the Huntley Creek setback. Recommended species for planting include a mix of coniferous and deciduous trees such as sugar maple, basswood, red oak, white pine, and white spruce, along with native nannyberry, elderberry, and dogwood shrubs.

The following additional mitigation measures are recommended:

1. Woody vegetation that must be removed is to be cut outside of the breeding bird period of April 15th to August 15th unless a breeding bird survey by a qualified biologist identifies no nesting activity within five days of the proposed vegetation removal;
2. The contractor is to be aware of potential Species at Risk in the vicinity of the study corridor including butternut. Appendix 1 of City of Ottawa (2015) describes these species. Appendix 1 should be modified for this construction project to include the contact information of the project biologist. Any Species at Risk sightings are to be immediately reported to the project biologist and the Ministry of Natural Resources and Forestry and activities modified to avoid impacts until further direction by the Ministry;
3. The work areas are to be isolated with properly installed and maintained silt fencing and, as recommended in City of Ottawa (2015), prior to beginning work each day, potential wildlife is to be checked by conducting a thorough visual inspection of the work space and immediate surroundings. See Section 2.5 of the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2015) for additional recommendations on construction site management. Any turtles and snakes in the work areas are to be

relocated to the Huntley Creek corridor. Animals should be moved only far enough to ensure their immediate safety. See Appendix 1 and the links in Section 4 of City of Ottawa (2015) for suggestions on how to effectively relocate turtles and snakes;

4. Proper sediment and erosion control is important for general environmental protection. Seepage barriers such as silt fencing, straw bale check dams, and other sediment and erosion control measures will be installed as required to OPSD requirements in any temporary drainage ditches and around areas disturbed during construction and stockpiles of fine material. These control measures must be properly maintained to maximize their function during construction. These measures are to be described in an erosion and sediment control plan and must be monitored and properly implemented;
5. No discharges will be directed towards Huntley Creek. A washout pond will contain runoff from the washing areas. The washout pond is a sealed unit and water will not be allowed to infiltrate or runoff into Huntley Creek;
6. Armour stone blocks will be placed at regular intervals along the edge of the bioswales. This will prevent the potential for encroachment into the Huntley Creek corridor and ensure the bioswales are not disturbed. As shown on Map 2 snow storage will be to the west of the plant in existing meadow habitat;
7. Plantings of native trees and shrubs of local origin are recommended to help offset the loss of existing trees and improve the aesthetic and local wildlife habitat features of the site outside of the Huntley Creek corridor as well as portions of the corridor currently lacking in woody vegetation;
8. Municipal by-laws and provincial regulations for noise will be followed and utilities will be located as required in the vicinity of the site prior to construction; and,
9. Waste will be managed in accordance with provincial regulations. The contractor will have a spill kit on-hand at all times in case of spills or other accidents.

Schedule of Proposed Works

It is proposed to remove the woody vegetation in 2019, outside of the breeding bird season from April 15th to August 15th. City forestry (planning) staff is to be contacted at least two business days before the start of construction to ensure any required protective fencing is properly installed.

Conclusion

A cement plant and associated material storage, processing and administration is proposed for the central portion of the site, with access from Carp Road. Outside of the significant Huntley Creek corridor, there are no natural heritage features of note on or adjacent to the site, including no Species at Risk utilization. No site disturbances are proposed within approximately 80 metres of the Huntley Creek channel and the woody vegetation along the creek corridor will not be disturbed.

Provided the important mitigation measures in this report no negative impacts are anticipated on the adjacent Huntley Creek corridor or Huntley Natural Area.

References

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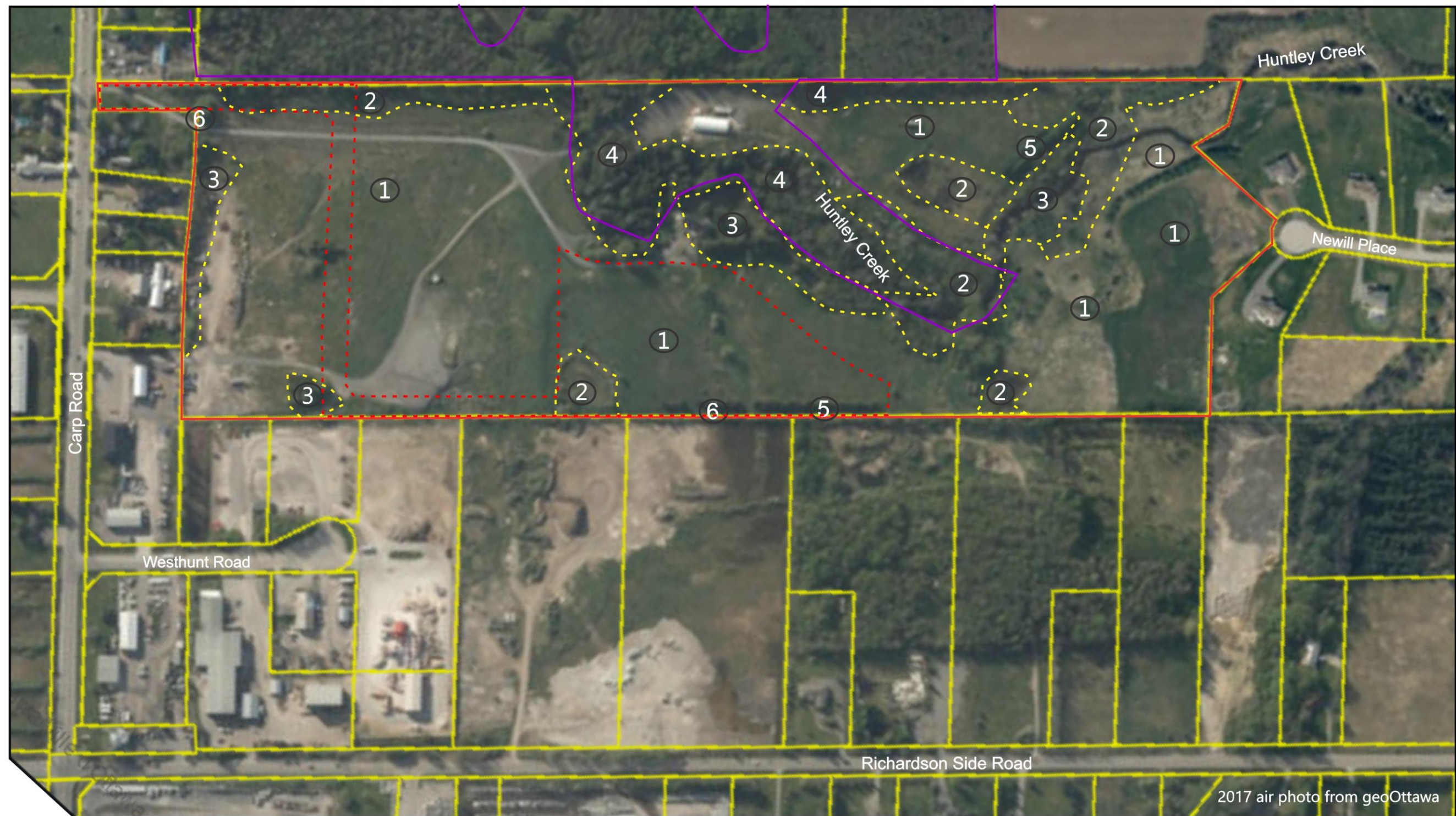
Please call if you have any questions on this Tree Conservation Report and EIS.

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, MSc.
Principal

\\carpindusttreis



Legend

- Overall Site
- - - Site Plan Application Limit
- - - Vegetation communities
- Huntley Natural Area

Vegetation Communities

- ① Cultural meadow
- ② Cultural thicket
- ③ Cultural woodland
- ④ Upland cedar coniferous forest
- ⑤ Coniferous hedgerow
- ⑥ Deciduous hedgerow

Map 1

FILE: 15-09

June 11, 2018

Prepared for: Cavanagh Developments

Prepared by:



Muncaster
Environmental
Planning Inc.

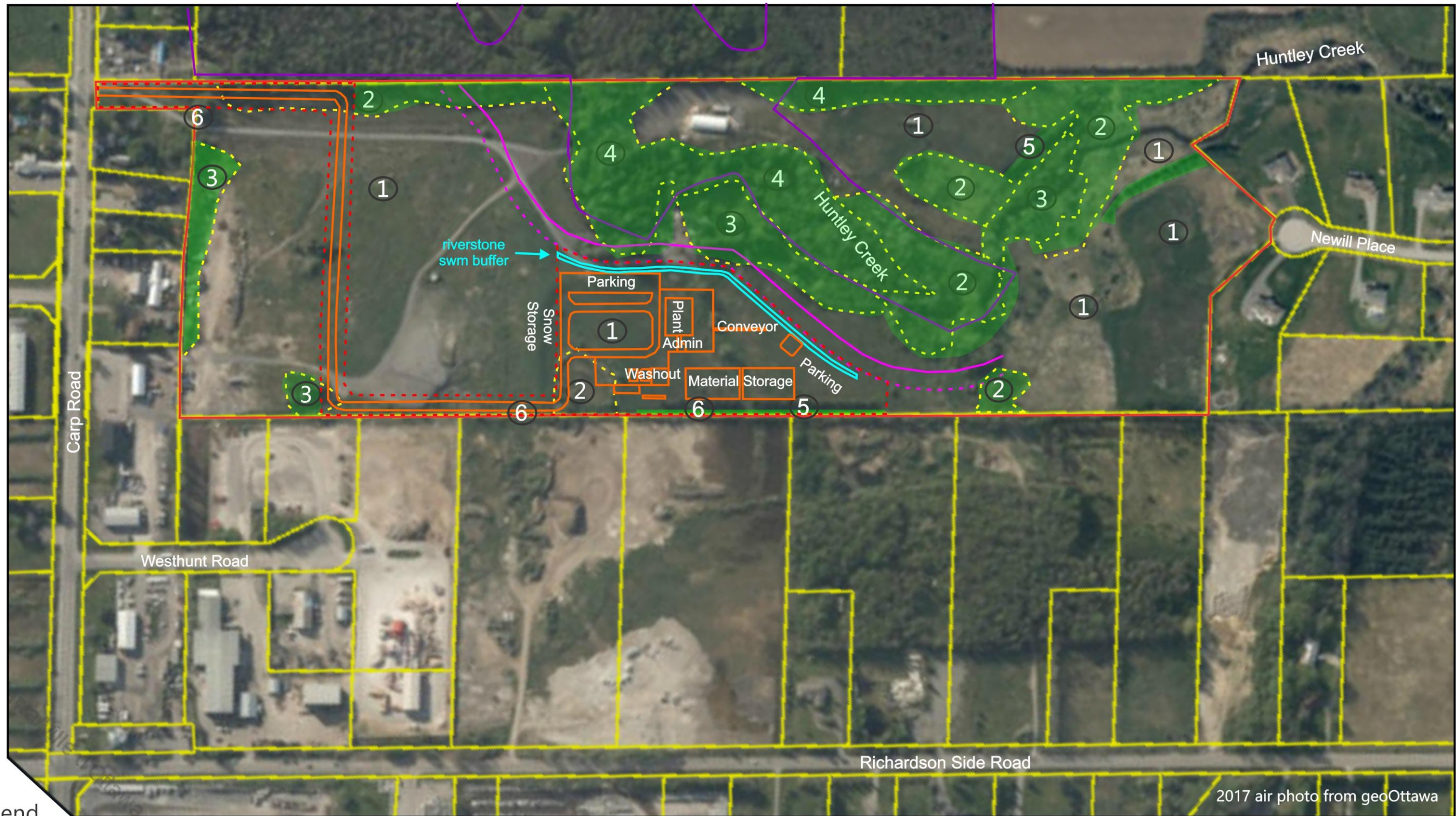
CURRENT VEGETATION

2596 CARP ROAD
West Carleton, City of Ottawa



Approx. Scale 1:3,700
(at 11 x 17 landscape format)





Legend

- Overall Site
- - - Site Plan Application Limit
- - - Vegetation Communities
- Huntley Natural Area
- Meander Belt Limit
- - - Meander Belt 15 m Setback
- Proposed Areas of Tree Retention

Vegetation Communities

- ① Cultural meadow
- ② Cultural thicket
- ③ Cultural woodland
- ④ Upland cedar coniferous forest
- ⑤ Coniferous hedgerow
- ⑥ Deciduous hedgerow

Map 2

FILE: 15-09

June 11, 2018

Prepared for: Cavanagh Developments

Prepared by:



Muncaster
Environmental
Planning Inc.

PROPOSED CONSERVED VEGETATION

2596 CARP ROAD
West Carleton, City of Ottawa



Approx. Scale 1:3,700
(at 11 x 17 landscape format)



APPENDIX A

MINISTRY of NATURAL RESOURCES and FORESTRY

CORRESPONDENCE

**Ministry of Natural
Resources and Forestry**

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Fri. Oct 20, 2017

Bernie Muncaster
Muncaster Environmental Planning Inc
491 Buchanan Crescent
Ottawa
K1J 7V2
(613) 748-3753
bmuncaster@rogers.com

Attention: Bernie Muncaster

Subject: Information Request - Developments
Project Name: 2596 Carp Road Cavanagh Industrial
Site Address:
Our File No. 2017_HUN-4250

Natural Heritage Values

The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment

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and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

In Addition, the following Fish species were identified: bluntnose minnow, brook stickleback, brown bullhead, central mudminnow, common shiner, creek chub, eastern blacknose dace, fathead minnow, golden shiner, johnny darter/tesselated darter, mottled sculpin, northern redbelly dace, Phoxinus sp., pumpkinseed, white sucker.

Wildland Fire

MNRF woodland data shows that the site contains woodlands. The lands should be assessed for the risk of wildland fire as per PPS 2014, Section 3.1.8 "*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*". Further discussion with the local municipality should be carried out to address how the risks associated with wildland fire will be covered for such a development proposal. Please see the Wildland Fire Risk Assessment and Mitigation Guidebook (2016) for more information.

Significant Woodlands

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville

District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

Significant Wildlife Habitat

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

Species at Risk

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- Blanding's Turtle (THR)
- Bobolink (THR)
- Butternut (END)
- Loggerhead Shrike (END)
- Sensitive Species (END)
- Whip poor will (THR)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under

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the ESA. For more on how species at risk and their habitat is protected, please see:
<https://www.ontario.ca/page/how-species-risk-are-protected>.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:

<http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E>

For more information on the ESA authorization process, please see:

<https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization>

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Snapping Turtle (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

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The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: <https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization>.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

This letter is valid until: Sat. Oct 20, 2018

The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Scott Smithers
Management Biologist
scott.smithers@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet