

Muncaster Environmental Planning Inc.

November 15, 2022

Mr. Billy Houchaimi P.O. Box 1156 RR # 3 Almonte, ON K0A 1A0

Dear Mr. Houchaimi:

RE: Mill Valley Estates, Southeast Almonte Environmental Impact Assessment

I have completed an Environmental Impact Assessment (EIA) for proposed urban residential development on the Houchaimi Holdings lands, which are in the southeast portion of Almonte, adjacent to the existing urban boundary. The site is approximately 33.7 hectares and is bordered by Paterson Street/Old Almonte Road to the west and Appleton Side Road to the east (Figure 1). The site is just south of the Orchard View by the Mississippi retirement residence on the east side of Old Almonte Road.

For directional reference, Old Almonte Road and Appleton Side Road are considered to be in a north-south alignment

Site Context and Proposed Development

No Official Plan constraints are shown for the site in the Community Official Plan, with significant woodlands mapped approximately 130 metres to the north of the northeast portion of the site, west of Appleton Side Road. A small unevaluated wetland area is shown on Mississippi Valley Conservation Authority in the northeast corner of the site. However, site reviews did not identify this area as wetland and the area is not regulated by the Conservation Authority. Although not covered in this report, the Official Plan also identifies source water protection values and an abandoned mine setback for the site. A channel in the southeast portion of the site, to be relocated to the south, is also on the Conservation Authority mapping as well as the Ministry of Natural Resources and Forestry's Natural Heritage Areas mapping. No wetlands are shown on the MNRF mapping for the site or adjacent lands.

Four hundred and seventy-one residential units are proposed for the subdivision, with 257 single detached and semi-detached residences, 166 townhomes, and 48 apartment units (Figure 2). The development will be accessed with a new road each off Old Almonte Road and Appleton Side Road, leading to an internal road network. A 0.93 hectare park is proposed for the north-central portion of the site. The residential development will be on full municipal services. The stormwater management approach being proposed is installation of storm sewers, which will

outlet to a two hectare stormwater management pond in the south-central portion of the site. The pond will in turn outlet to the channel in the southeast corner of the site, which will be realigned. The stormwater management pond will be a wet pond providing stormwater quantity control to predevelopment levels. Stormwater quality control will also be provided by the wet pond and associated forebay which will provide extended detention times allowing the opportunity for sediment infiltration.

Methodology

This EIA was prepared in accordance with Section 3.1.2.7 of the Mississippi Mills Community Official Plan, with guidance from the Natural Heritage Reference Manual (OMNR, 2010). The EIA will describe the natural heritage features and functions, including assessing potential Species at Risk on and adjacent to the site.

The field surveys and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty-four years of experience in completing natural environment assessments. Michelle Muncaster assisted with many of the field surveys.

The EIA will provide the methodology to mitigate where possible and as required negative impacts on the significant natural heritage features and functions. Potential Species at Risk in the general area were identified from Ministry of Natural Resources and Forestry databases, the Ontario Reptile and Amphibian Atlas, the Ontario Breeding Bird Atlas, and Species at Risk reported for the general area.

The natural environment features of the site and adjacent lands were reviewed on October 1st, 2020, and May 31st, June 8th, and June 24th, 2021. The morning October survey, from 10:00 to 12:50, was completed under partly cloudy skies, a light to moderate breeze, and a temperature of 14° C. The May and June surveys were completed in the morning, between 06:30 and 09:35, under good conditions for bird observations, including partly cloudy or sunny skies, a light air or light breeze, and air temperatures between 12 and 24° C. Five point counts of ten minute duration each were completed for grassland Species at Risk in recently used pasture fields with potential grassland habitat. The locations of the points counts are shown on Figure 1.

Existing Conditions

Land uses in the vicinity of the site include urban residential to the west, west of Paterson Street/ Old Almonte Road, the retirement community and fields to the north, fields and natural areas to the east, and fields to the south.

Surface Geology and Hydrology

The soils on the site are described by Paterson (2020) as a thin layer of top soil overlying a generally shallow area of silty clays and/or glacial till overlying. Bedrock was encountered by Paterson (2020) at all test pits, with depths ranging from 0.1 to 2.8 metres below the existing ground surface and rock was frequently observed at the surface in many portions of the site. Based on available geological mapping, Paterson (2020) described the bedrock as interbedded dolostone and limestone of the Gull River formation.

All test holes were generally observed to be dry upon completion of the sampling program with the exception of minor infiltration noted along a few of the test pit sidewalls in the east portion of the site, where the groundwater was measured at a depth of 0.5 to 2.1 metres (Paterson, 2020). Paterson (2020 concluded that the long-term groundwater table is expected to be near or perched within the bedrock surface.

A 3.5 metres wide dug drainage features is in the southeast corner of the site, beginning at Appleton Side Road, going straight west before a 90 degree plus angle to the south site boundary approximately 190 metres west of the road. Standing water up to 15cm in depth was observed in the feature several times, including the October 1st, 2020 and June, 2021 surveys, but the water was not flowing (Photo 11). No low flow channel is present within the 3.5 metres bankfull width and no forage fish were observed though only visual observations were made. Algae was extensive, with water plantain, reed canary grass, hard-stemmed bulrush, lake sedge, purple loosestrife, and red-osier dogwood also present. There is no canopy cover for the feature and there is no connecting channel on the east side of Appleton Side Road other than the roadside ditch on the east side of the road. Downstream of the site, the culvert under Old Almonte Road is perched at the downstream end (Photo 12). This will prevent any fish migration upstream towards the site from the Mississippi River. Algae growth was already extensive in the channel downstream of Old Almonte Road on June 23rd (Photo 12). Any fish habitat in the dug channel is noticeably minimized in sensitivity due to a lack of connection with larger, natural watercourses and the lack of flow and artificial nature of the channel with potential fish habitat structure limited to aquatic vegetation.

Open Habitats

As shown on Figure 1 the site is dominated by agricultural fields (Photos 1 and 2). The fields closest to Old Almonte Road are ploughed while the balance of the fields are cultural meadows used for pasture until 2021 (Photos 3 and 4). June meadow grass, common brome grass, redtop, poverty oat grass, reed canary grass, timothy, barnyard grass, common ragweed, common mugwort, common burdock, evening primrose, bladder campion, tall buttercup, Canada thistle, bull thistle, silvery cinquefoil, white clover, red clover, alsike clover, black medic, blueweed, heart-leaved aster, New England aster, Canada goldenrod, tall goldenrod, common milkweed, white bedstraw, field bindweed, bird's-foot tick trefoil, motherwort, common purslane, tufted vetch, crown vetch, common strawberry, common mullein, horseweed, bulrushes, ox-eye daisy and Philadelphia fleabane are typical of the ground vegetation in the cultural meadows. By June 24th the grass heights in the meadows varied between 50 and 90cm, with percentage of grass between 60 and 90 percent.

Another cultural meadow is in the east-central portion of the site, just to the west of Appleton Side Road. More woody vegetation is in this representation with scattered white cedar and Scot's pine between 15cm and 25cm dbh.

Where there is more woody vegetation cover, cultural thicket habitat is mapped in the central and east portions of the site (Photo 8). Common buckthorn shrubs are dominant in much of the thicket habitats, with prickly ash very common in others. Common juniper, slender willow, Bebb's willow, tartarian honeysuckle, black currant, red-osier dogwood, and barberry shrubs are

also present. White elms up to 50cm dbh are the largest trees in the thickets, with smaller white cedars, white spruce, green ash, and bur oak up to 28cm dbh scattered in areas. Many of the white elms are dead or had very little leaf-out and wild grape coverage is on many of the other trees. Ground vegetation in the thicket habitats include common dandelion, June meadow grass, red clover, New England aster, panicled aster, small white aster, tufted vetch, hard-stem bulrush, purple loosestrife, broad-leaved cattail, common yarrow, Canada thistle, common strawberry, tall goldenrod, and white bedstraw.

Several areas of deciduous hedgerows are between the agricultural fields (Photo 6). Bur oak, basswood, green ash, white ash, Manitoba maple, white cedar, sugar maple, white spruce, and white elm are the common trees in the hedgerows (Photos 5 and 7), with tartarian honeysuckle, prickly ash, common buckthorn, red raspberry, blackberry, hawthorn, and apple shrubs among the hedgerow trees. Regenerating basswood, white elm, Manitoba maple, and ash are also among the hedgerow trees. The larger trees include basswoods in the northwest portion of the site up to 60cm dbh, and a twin-stem bur oak, with individual stems up to 58cm dbh and a 45cm dbh sugar maple on the west site edge. Leaf-out was poor on many of the ash and elm trees and thicket creeper and wild grape coverage is common on some lower tree branches. Other than along the west portion of the south site boundary, the deciduous hedgerows are intermittent.

Many of the hedgerows are dominated by shrubs, especially common buckthorn, with hawthorn, prickly ash, and common juniper also well represented.

Upland White Cedar Coniferous Forest

Several pockets of upland coniferous forests are in the east portion of the site, west of Appleton Side Road (Photos 9 and 10). The small forests are heavily dominated by white cedars. There is a high density of cedars, with the largest stems in the 25cm dbh range. Due to the cedar density, there is limited understory and ground vegetation in the coniferous forests. A few deciduous trees, up to 30cm dbh, are in the coniferous forests, including white ash, green ash, and white elm. Most of the ash trees are dead and many of the elm had reduced leaf-out.

Wildlife

Wildlife observed on and adjacent to the site the include grey squirrel, Canada goose, American crow, turkey vulture, wild turkey, mourning dove, blue jay, black-capped chickadee, whitebreasted nuthatch, great-crested flycatcher, least flycatcher, black-billed cuckoo, brown thrasher, common yellowthroat, yellow warbler, eastern meadowlark (a threatened Species at Risk observed calling to the north of the site and seen flying from the south), northern cardinal, common grackle, red-winged blackbird, European starling, American robin, American goldfinch, savannah sparrow, white-throated sparrow, and song sparrow.

Potential wildlife cavities were observed in a large white elm in the central-south thicket (Photo 13) though no evidence of wildlife activity was observed during the field surveys. No fissures in the exposed bedrock, stone fences, or evidence of raptor nesting were observed.



Photo 1 – Agricultural field in the southwest portion of the site. View looking west



Photo 2 – Agricultural field in the northwest portion of the site. View looking north



Photo 3 - Pasture habitat in the north-central portion of the site. View looking northwest



Photo 4 - Pasture habitat in the south-central portion of the site. View looking west to intermittent deciduous hedgerow





Photo 5 – Manitoba maples are common along the south-central site edge. View looking south



Photo 6 – Deciduous hedgerow along the south site boundary. View looking west



Photo 7 – *Basswood in the intermittent deciduous hedgerow in the northwest portion of the site. View looking northwest*



Photo 8 – Cultural thicket in the northeast portion of the site, with view looking west from Appleton Side Road



Photo 9 – Upland cedar coniferous forest representation in the northeast portion of the site. View looking east



Photo 10 – Typical cedar size in the coniferous forests in the northeast portion of the site. View looking north



Photo 11 – Dug channel is the southeast corner of the site has standing water in places but no flowing water observed in June, 2021 or the other field surveys. View looking southeast



Photo 12 – South of the site, the culvert under Old Almonte Road is perched at the downstream (west) end. View looking east



Photo 13 – Potential wildlife cavity tree in the south-central portion of the site. View looking south

Significant Woodlands and Wildlife Habitat

Section 7 of the Natural Heritage Reference Manual (OMNR, 2010) is used to identify significant woodlands, which are not mapped for the small forested portions of the site in the municipality's Community Official Plan. The cedar forest parcels would not be considered significant woodlands due to their small size (approximately 0.8 hectares including the contiguous forest to the north), lack of mature trees, lack of forest interior habitat, lack of rare vegetation, or other unique characteristics.

In terms of significant wildlife habitat potential, the open habitats lack wetland habitat, including larger areas of standing water to provide important staging or nesting areas for waterfowl and other wetland wildlife. Forest interior habitat, old growth forest, rare vegetation, rock piles, stone fences, fissured bedrock, stick nests or other evidence of raptor use, or important staging, wintering or migration areas were not observed. No evidence of wildlife use was noted in the south-central cavity tree. Some representation of species representing open country bird breeding habitat (savannah sparrow) and shrub/early successional bird breeding habitat (brown thrasher and black-billed cuckoo) was observed in the open habitats but the number of species observed was less than the threshold for significant wildlife habitat in MNRF (2015) and there was no indication they were nesting on the site.

Species at Risk

The MNRF's Make a Map: Natural Heritage Areas website was reviewed on September 30th, 2020. This site 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 (18VR00 - 78, -79, -88 and -89). One Species at Risk, eastern meadowlark, was identified for these squares, along with snapping turtle, a species of special concern. Other species of interest identified for the square were western chorus frog and river redhorse. River redhorse and snapping turtle are known from the Mississippi River, which is approximately 500 metres to the west of the site. There is no wetland habitat on the site that represents suitable turtle habitat or may support amphibians.

Bobolink and eastern meadowlark utilize large grassland areas including hayfields and pasture lands. An eastern meadowlark was observed calling to the north of the site during the May 31st morning survey and was heard from the south of the site and flying over the east portion of the site on June 24th. There is no evidence that this species was nesting on the site.

Chimney swift, bobolink, eastern meadowlark, barn swallow, and bank swallow are Species at Risk reported in the Breeding Bird Atlas for the 10 kilometre square that includes the site and general area (18VR00). No structures are present on the site that may be utilized by chimney swift or barn swallow. Bank swallow is a colonial nester; burrowing in eroding silt or sand banks and sand walls, potential habitat that is also not present. Bobolink and eastern meadowlark are discussed above.

Other potential Species at Risk identified as potentially occurring in the general area include butternut, Blanding's turtle, eastern whip-poor-will, little brown bat, northern long-eared bat and eastern small-footed myotis. No butternuts were observed on or within 50 metres of the site. No suitable turtle habitat was observed on or adjacent to the site.

Eastern whip-poor-will utilize pit 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 on-site and adjacent contiguous cedar forests are too small to provide suitable eastern whip-poor-will habitat and the tree density appears too thick. The density of larger cavity trees on site is well below the density of 10 per hectare (only one cavity tree was observed) considered required for potential summer bat maternity colony habitat.

Impact Analysis and Recommendations

A drainage channel in the southeast corner of the municipal drain and grassland Species at Risk are the potential significant natural heritage features on and adjacent to the site. The on-site forests are small, lack older trees, and contain no forest interior habitat. No characteristics were observed for which they would be considered significant woodlands. Though there was an eastern meadowlark siting to the north of the north-central portion of the site on May 31st, and another flying over site and heard calling from the south of the site on June 24th, there is no evidence it was nesting on the site. The channel in the southeast corner of the site will be relocated along the east and south edges of the site, as shown on the Conceptual Grading Plan produced by Stantec Consulting Ltd. (revised November 3rd, 2022). No flow was observed in the channel, though flow is expected following major events and in the spring. Any direct forage fish habitat in the intermittent channel will be protected in the relocated channel.

Due to the required grade changes and extent of the footprint of the urban development and associated servicing, the opportunities for tree retention are minimal. For example, grade raises in the range of two metres for the stormwater pond area will prohibit tree retention in this area. If the detailed engineering analysis, including a final Grading Plan, show tree retention is feasible at the rear of the residential lots for detached or semi-detached residences in the southwest portion of the site, the trees in better condition along the deciduous hedgerow in the west portion of the south site boundary will be retained. This area is outlined in green on Figure 1 below.

Due to the open Appleton Side Road and Paterson Street/ Old Almonte Road corridors, there appears to be no concerns with protecting the critical root zones of adjacent trees along the west and east site boundaries. Portions of the small cedar forest parcels extend to the north of the site and scattered small trees are to the south. The adjacent lands are also owned by the current Applicant and the longer term plan is for these lands to be developed, including a business park to the north. No specimen trees were observed adjacent to the site. As it is anticipated that future development will occur on the lands to the south and north and there are no specimen trees or those containing unique features, no protection measures are required for any critical root zones of adjacent trees that may extend onto the site. However, the on-site trees do provide local wildlife habitat and climate and aesthetic benefits.

A stormwater management pond is proposed for the southeast corner of the site. Shrubs could be planted along the pond edges and slopes to increase the diversity of habitat present, and amphibian pools created adjacent to the management pond. Seeding of native grasses and ground vegetation will also increase the features and functions of the habitat. The pond will also encourage infiltration of surface water.

The following mitigation measures and recommendations are to be properly implemented:

- Where grading and other site servicing requirements permit, tree retention is to be maximized as much as possible at the rear of the lots. For retained hedgerow trees in the southwest portion of the site, sturdy temporary protective fencing at least 1.2 metres in height should be installed as close to the critical root zone of the retained trees as possible. No stockpiling of material, heavy machinery traffic, or significant grade changes are to occur on the non-development side of the temporary fencing. Additional tree protection measures will be developed once the location of retained trees is finalized. Woody vegetation removal is to occur before May 1st or after July 31st for the protection of breeding birds unless a survey conducted by a qualified biologist within five days of the vegetation removal identifies no breeding activity;
- 2. Prior to site disturbances and other construction activities silt fencing is to be properly installed around the work area perimeter to provide sediment and erosion control and to isolate the work area from sensitive wildlife such as turtles. It is important that the silt fencing is properly dug in and maintained. The silt fencing should be in a functional condition until its removal once construction is completed and the site is stabilized;
- 3. Construction staff is to be made aware of the characteristics of potential Species at Risk, including eastern meadowlark and bobolink. If a Species at Risk is observed, all work

that could impact the species is to cease and the Ministry of the Environment, Conservation and Parks and a biological consultant contacted;

- 4. Once the work area is surrounded by properly dug in fencing and prior to site disturbances, the work area is to be searched for turtles and other wildlife that may be impacted. Any turtles, snakes or other sensitive wildlife observed during the construction phase are to be relocated to the south as required to ensure they are not endangered by the construction activities. Animals should be moved only far enough to ensure their immediate safety. SAR species can only be relocated by people trained to do so;
- 5. Prior to beginning work each day, the work area is to be checked for wildlife by conducting a thorough visual inspection of the work space and immediate surroundings;
- 6. To discourage wildlife from entering the work areas during construction, the construction site is to be kept clear of food wastes and other garbage, and proper drainage provided to avoid accumulation of standing water, which could attract amphibians, birds, and other wildlife to the work areas;
- 7. Mitigation measures for the realignment of the southeast channel are provided below;
- 8. Pets are to be controlled at all times and not permitted to roam freely;
- 9. 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. Waste will be managed in accordance with provincial regulations;
- 10. The contractor will have a spill kit on-hand at all times in case of spills or other accidents;
- 11. The extent of exposed soils is to be kept to a minimum at all times. Re-vegetation of exposed, non-developed areas is to be achieved as soon as possible; and,
- 12. Roof runoff should be directed to rain barrels, grass, or other permeable surfaces.

The following additional mitigation measures are recommended in association with relocation of the southeast channel:

- All necessary permits are to be obtained from MVCA and DFO for the realignment;
- Although the potential for fish habitat in the realigned channel are minimal, the new channel alignment is should include some features to promote habitat including a defined low flow channel, transplanting plus of aquatic vegetation, and placement of cobble and other coarse material;
- The new channel is to be created well before the flows are redirected to permit the vegetation along the new channel to germinate and take hold;
- All in-water work is to be completed preferably during low flow periods and must be completed outside of the more sensitive March 15th to June 30th period. The summer period is recommended due to generally reduced flow, decreased potential for sediment input, and the greater growing season afforded for re-vegetation of disturbed areas. If the proposed timing of the work is to take place between October 15th and March 15th, it may be necessary to have all exposed areas along the banks covered with erosion control blankets to keep the soil in place and prevent erosion from occurring during the following spring freshet;
- Connection of the realigned channel and associated redirection of existing flows will not be initiated when flows are elevated from local rains, storm events or seasonal floods, or when significant rains are forecasted;

- The existing channel is to be isolated and de-fished immediately if water is present. Fish are to be safely relocated downstream. A sampling permit will be required from MNRF. The permit may take up to a month to obtain;
- Bare fine soils along the channel banks at the time of the realignment are to be seeded or protected with self-seeded erosion control matting before the flow is redirected. Seeded areas are to be stabilized before the new connection is made. Monitoring is to be completed following redirection of the flow and any water quality issues such as elevated turbidity levels are to be addressed immediately with cessation of work until proper sediment and erosion controls are in place;
- Where required due to the potential for erosion or sedimentation, the new channel and existing channel, when in-service, are to be protected with properly keyed in and maintained silt fencing. It is important that the silt fencing is properly maintained, including removal of accumulated sediment and replacement of damaged panels;
- If elevated turbidity levels are observed or there is reason to believe fines may enter the downstream habitat, suitable erosion control measure are to be implemented at the outlet of the realigned channel, which may include straw bale check dams and turbidity curtains placed near the outlet;
- Excavated material should either be removed from the site or spread away from the topof-slope of the realigned channel and seeded. All disturbed areas are to be vegetated by seeding with native grasses to prevent soil erosion. Where the spread soil is within 15 metres of a watercourse, silt fencing is to be placed between the spread spoil and the existing watercourse until the site is stabilized;
- Any disturbed areas of fine material are to be stabilized as soon as possible to reduce soil erosion;
- The landscaping along the new channel corridor will include the planting of native tree and shrub species which will provide shade to the channel. Use of invasive plant material is prohibited; and,
- Additional mitigation measures to minimize the potential for inputs of sediments and other contaminants into the watercourse and the environment in general include proper maintenance not in proximity to a watercourse on construction equipment with respect to refuelling, washing and fluid changes, and proper disposal of fluids, filters and other waste materials.

Cumulative Impacts and Conclusion

Other than potential intermittent forage fish habitat associated with the relocated channel along the southeast site boundary, there are no significant natural heritage features on or adjacent to the site, as identified in the Provincial Policy Statement.

The site is dominated by open fields, with some tree removal to occur in the intermittent deciduous hedgerows, small parcels of upland cedar forest dominated by young trees, and cultural thickets. Where detailed grading and other site servicing permit, trees in better condition will be retained, including at the rear of the lots in the southwest portion of the site. Over time the existing functions of the trees can be offset with plantings of native and desirable species in the open areas of the development including around the stormwater management pond and in the north-central park.

The development will result in a loss of ploughed fields and pasture lands, as well as small forested parcels. There is some wildlife habitat associated with the pasture lands and small cedar forests but this habitat is common on the local landscape, including large areas of hayfields to the southwest, south, and southeast of the site. Provided the mitigation measures identified above are properly implemented, the proposed development is not anticipated to add significantly to the cumulative impacts of the area due to the low sensitivity of the agricultural fields and other upland habitats.

This EIA concludes that it is the professional opinion of the author that the construction and operation of a proposed urban residential development and associated infrastructure will not have a significant impact on the natural environment of the local environment provided the above recommended mitigation measures are properly implemented.

References

Ontario Ministry of Natural Resources. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. 2nd Edition. March 2010. 233 pp.

Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. January, 2015. 38 pp.

Paterson Group. 2020. Geotechnical Investigation. Proposed Residential Development Riverfront Estates - Future Expansion Lands, 1218 Old Almonte Road – Almonte. Report PG5576-1. December 7th, 2020. 19 pp.

Please call if you have any questions on this EIA.

Yours Sincerely, MUNCASTER ENVIRONMENTAL PLANNING INC.

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Bernie Muncaster, M.Sc. Principal

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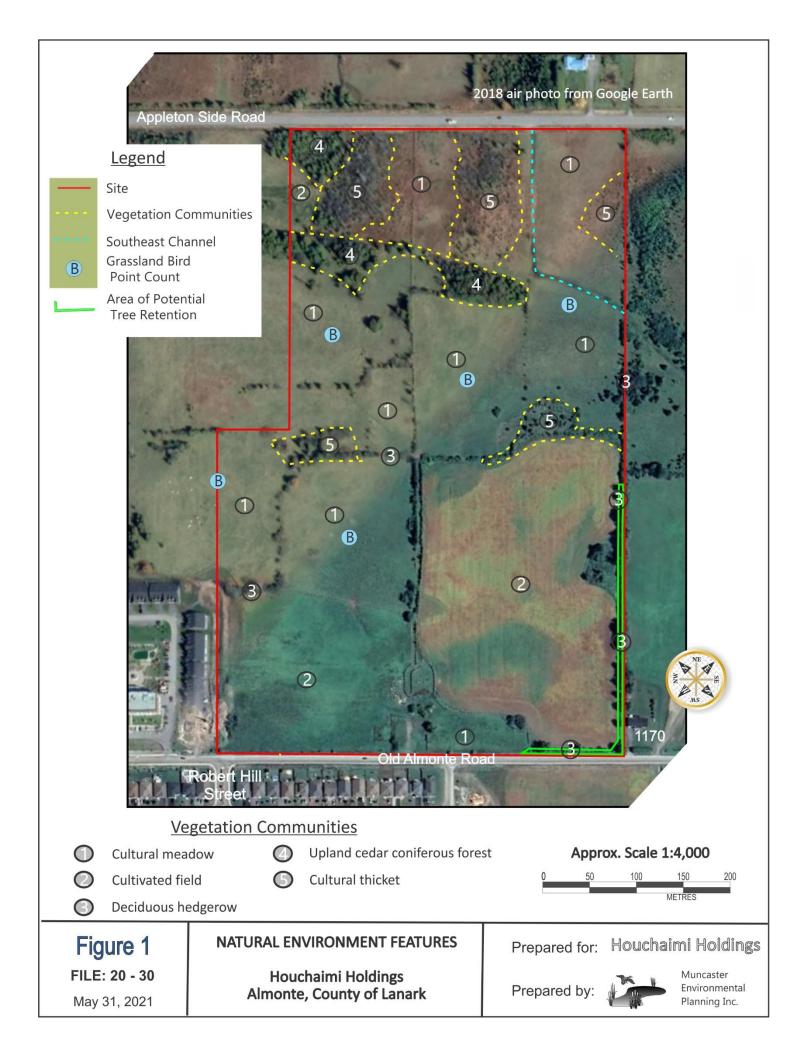


FIGURE 2 – SUBDIVSION PLAN

