SAVANTA
A GEI Company

Environmental Impact Study Peer Review

Enbridge Dawn-Parkway System Expansion
Flamborough, Ontario

OCTOBER 2020

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Flamborough, Ontario

REPORT PREPARED FOR
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EXECUTIVE SUMMARY

Savanta Inc. (Savanta) was retained by Hamilton Region Conservation Authority (HCA) to conduct a secondary review of the Dawn-Parkway System Expansion: Kirkwall-Hamilton Pipeline Section: Scoped Environmental Impact Study (EIS) prepared by Stantec Consulting Ltd. (Stantec) on behalf of Enbridge Gas Inc. Proposed construction of a 48-inch diameter natural gas pipeline will require an additional 16 m easement on the HCA Beverly Swamp property adjacent to the existing pipeline corridor to accommodate spacing requirements. As such, HCA has commissioned an independent peer review of the Scoped EIS completed by Stantec to confirm accuracy in the classification of significant features, and that easement limits and ecological constraints have been appropriately assessed.

Savanta is generally in agreement with the data collection methods applied to the proposed Field Study Work Plan used to inform the Scoped EIS report. With the exception of Blanding's Turtle Surveys, all ecological field studies defined by the Field Study Work Plan were completed. Additional justification for the exclusion of Blanding's Turtle Surveys, as well as any consultation with the Ministry of Environment, Conservation and Parks with respect to Blanding's Turtle, should be included in the report. Results of all other field studies are considered comprehensive and complete.

In terms of the characterization of natural features, additional considerations should be applied to the evaluation of potential Significant Wildlife Habitat (SWH) based on the Ecosite codes adopted by the Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E (MNRF 2015). The significance analysis completed as part of the Scoped EIS was based on the amended Ecological Land Classification (ELC) system (Lee 2008) applied to the vegetation community assessments, which is not consistent with the ELC Ecosite codes (Lee et. al. 1998) outlined under the criteria schedules. As such, Ecosite codes defined under the amended classification system may preclude habitat from being defined as SWH that may otherwise meet SWH criteria. Similarly, the provincial status of vegetation communities defined by the Natural Heritage Information Centre status ranks (i.e., S1 to S3 and G1 to G3; NHIC 2018) are assigned under the previous classification system (Lee et. al. 1998). As provincial and technical guideline documents have not been brought into conformity with the updated ELC designations (Lee 2008), it is recommended that SWH and vegetation community status ranks be reevaluated in the context of the previous classification model (Lee et. al. 1998).

Significant natural features have been appropriately identified through the Provincial Policy Statement (MMAH 2020) and the City of Hamilton Official Plan (2012) in the Scoped EIS report. However, further detail is requested in the context of potential constraints and implications of applicable policies on the proposed project.

Implementation of the proposed permanent easement expansion (16 m), in conjunction with the existing easement (approximately 25 m to 30 m), will establish a permanent canopy gap greater than 20 m. Although it is acknowledged in the Scoped EIS that the existing right-of-way has fragmented the woodland, potential direct and indirect impacts as a result of further habitat fragmentation should be

reviewed. In addition, potential impacts to the significant groundwater aquifer identified within the construction footprint should be identified. Other potential direct and indirect impacts associated with the proposed easement expansion are addressed within the Scoped EIS. However, details pertaining to subsequent mitigation opportunities are lacking. As part of the Scoped EIS (Stantec 2020), it is recommended that a Compensation and Replanting Plan be developed, in consultation with HCA, to address impacts and demonstrate that no negative impacts to natural features or their ecological functions will occur as a result of the proposed easement expansion. In addition to mitigation for the impacts already identified within the report, details regarding the mitigation of changes in surface and/or groundwater inputs, sensory disturbance to wildlife, the migration of edge effects, the disruption of landscape-scale linkages and corridors, invasive species management, and damage or stress to tree rooting zones adjacent to woodland edges should also be incorporated. Furthermore, timing windows for the removal or disturbance of existing features should be adjusted, as per the guidance provided herein, to prevent any undue impacts.

Savanta recommends that revisions to the content of the Scoped EIS report (2020) prepared by Stantec be completed to provide further clarity and/or detail in support of the proposed pipeline easement expansion on the HCA lands. Pending the aforementioned revisions to the Scoped EIS, Savanta is satisfied that the data collection methods, proposed timing windows, biophysical characterization of the Study Area, significance assessment, impact evaluation and mitigation measures have been adequately assessed.

1.0 INTRODUCTION

Savanta Inc. (Savanta) was retained by Hamilton Region Conservation Authority (HCA) to conduct a secondary review of the Dawn-Parkway System Expansion: Kirkwall-Hamilton Pipeline Section: Scoped Environmental Impact Study (EIS) prepared by Stantec Consulting Ltd. (Stantec) on behalf of Enbridge Gas Inc. (Enbridge) in support of the proposed construction of a 48-inch diameter natural gas pipeline between the Kirkwall Valve and Hamilton Valve sites, in the City of Hamilton. Construction of the proposed pipeline will require an additional 16 m easement adjacent to the existing pipeline corridor to accommodate spacing requirements. The proposed easement expansion will encroach into the HCA Beverly Swamp property.

On February 6, 2020, the HCA held a Board of Directors meeting to review the proposed Enbridge Gas pipeline expansion and easement requirements. Significant concerns were raised by the Hamilton 350 Committee with regards to climate change and the continued use of fossil fuels. As such, the Hamilton 350 Committee proposed that HCA should not support the proposed construction or easement. The HCA Board of Directors resolved that "HCA opposes the easement request pending the results of an ecological study, independent peer review of the same study and pending Ontario Energy Board's decision regarding the proposed natural gas pipeline, specifically a decision approving the project." As a result of this board directive, HCA has commissioned an independent peer review of the work completed by Stantec on behalf of Enbridge for the proposed easement expansion on the HCA lands.

The peer review will examine accuracy in the classification of significant features and confirm that easement limits and ecological constraints have been appropriately assessed. This review has relied upon background reports prepared as part of the environmental review (i.e., Stantec 2019 Environmental Report, Stantec 2020 Scoped EIS), as well as relevant planning policy and guideline resources. The following sections provide a review of the field collection protocols, proposed timing windows, existing conditions, potential impacts, and proposed mitigation, compensation and/or avoidance measures that could influence the HCA lands.

1.1 Project Overview

Stantec was retained by Enbridge to undertake an environmental study of the construction and operation of the proposed pipeline expansion to fulfill the requirements of the Ontario Energy Board's *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition* (OEB 2016). As per the Environmental Report (Stantec 2019), the implementation of the proposed project is not anticipated to have significant adverse residual environmental and socio-economic impacts.

As requested by HCA, a Scoped EIS (Stantec 2020) was prepared to provide a technical assessment of development potential and outline opportunities to manage and/or mitigate potential negative impacts to natural heritage features and their associated functions within 120 m of the proposed pipeline. With

the implementation of the recommendations described in the Scoped EIS, it is expected that potential impacts can be avoided or reduced such that the existing features and functions will remain intact.

1.2 Study Area

The Study Area includes all project components (e.g., proposed pipeline easement, temporary land uses, storage, and laydown areas during construction, and access roads) located on the HCA lands as well as all lands within 120 m of the proposed construction footprint. The approximately 10 km proposed pipeline occurs on HCA-owned lands between the eastern extent of the Beverly Swamp Wetland Complex and the Kirkwell Valve Site to the west. A 2.59 ha temporary construction access easement will be required to access the requested permanent easement (i.e., 16 m wide; 2.09 ha) south of the existing pipeline corridor. The proposed access route is located adjacent to a tributary of Spencer Creek, immediately east of the eastern limit of the HCA lands. Heavy equipment will not use the proposed access route (as per Section 7.2.3). If heavy equipment use is required, an alternative access route should be provided for HCA review.

2.0 DATA COLLECTION APPROACHES AND METHODS

Savanta is generally in agreement that the data collection methods used to inform the Scoped EIS (Section 3.0; Stantec 2020) were conducted following the accepted methods, guidelines and protocols developed for the various disciplines. We further observe that the results of the surveys were adequately summarized in lists, tables and area descriptions including records of observed species, habitats and communities present.

2.1 Proposed Field Study Work Plan

The Proposed Field Study Work Plan for the Dawn-Parkway System Expansion: Kirkwall-Hamilton Pipeline Section (Appendix B; Stantec 2020) was issued to reviewing authorities (i.e., HCA, Conservation Halton and Grand River Conservation Authority) on December 18, 2019 in response to HCA comments on the Environmental Report (Stantec 2019). No comments from reviewing authorities are provided in the Scoped EIS (Stantec 2020).

The Field Study Work Plan was intended to provide an overview of studies conducted in 2019 as well as site-specific studies proposed in 2020 to characterize natural features within the Dawn-Parkway System Expansion: Kirkwall-Hamilton Pipeline Section Project Development Area. Completed and proposed field investigations used to inform the Scoped EIS report (Stantec 2020) included:

- Three-season Botanical Inventory (2019 and 2020);
- Bat Maternity Roost Habitat Assessment (2019);
- Raptor Nest Search (2019);
- Aquatic Surveys (2019);
- Wildlife Habitat Assessments (2020);
- Amphibian Surveys (2020);
- Grassland and Breeding Bird Surveys (2020);
- Blanding's Turtle Surveys (2020); and
- Incidental Wildlife Observations (2020).

All ecological field studies defined by the Field Study Work Plan were completed as part of the Scoped EIS (Table 3.1; Stantec 2020), with the exception of Blanding's Turtle Surveys.

Blanding's Turtle (*Emydoidea blandingi*) is known to occur within the local landscape and was recently observed within 2 km of the Study Area. As such, HCA recommended that Blanding's Turtle surveys be conducted as part of the Scoped EIS to determine the potential for this species to occur within the Study Area (Appendix B – August 20, 2019 correspondence; Stantec 2020). No further correspondence with HCA or the Ministry of Environment, Conservation and Parks (MECP) is provided following the submission of the Field Study Work Plan and no rationale is provided within the Scoped EIS (Stantec 2020) as justification for the exclusion of the Blanding's Turtle Surveys.

Given that the completion of Blanding's Turtle Surveys was requested by HCA, Savanta recommends that the Scoped EIS report (Stantec 2020) be revised to provide additional context regarding the exclusion of these surveys. The report should indicate if consultation with MECP was undertaken with respect to Blanding's Turtle. Consultation with MECP should discuss if Blanding's Turtle Surveys are required and any required mitigation measures to reduce impacts to this species during the active season.

3.0 CHARACTERIZATION OF NATURAL FEATURES

The environmental setting and characteristics on and surrounding the HCA lands have been assessed under Section 4.0 (Site Description and Natural Features) and Section 5.0 (Significant Natural Features) of the Scoped EIS report (Stantec 2020) and reviewed in the context of ecological and natural heritage significance. Results of the Field Study Work Plan conducted in 2019 and 2020 are considered comprehensive and complete.

3.1 Significant Wildlife Habitat

As per Section 4.4.2.8 (Significant Wildlife Habitat) of the Scoped EIS (Stantec 2020), Significant Wildlife Habitat (SWH) has been assessed in accordance with the *Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E* (MNRF 2015). The designation of SWH is generally contingent upon the fulfillment of known habitat type (e.g., ELC Ecosites), habitat size and shape, presence of species of conservation concern and/or habitat quality requirements.

Ecological Land Classification (ELC) Ecosite codes defined within the *Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E* (MNRF 2015) are based on the *Ecological land classification for southern Ontario: first approximation and its application* (Lee et. al. 1998) and are not consistent with the updated ELC codes (Lee 2008) applied to the vegetation community assessments completed by Stantec. As such, additional considerations should be applied to the evaluation of potential SWH based on ELC Ecosite codes as the absence of a specific Ecosite may not preclude habitat from being defined as SWH under the amended classification system.

In consideration of these discrepancies in the classification of ELC communities, SWH types not identified within the Study Area based on the absence or size of a particular ELC code should be reevaluated in the context of the previous classification model (Lee et. al. 1998). For example, candidate habitat for Raptor Wintering Areas was not identified on the HCA lands based on the absence of large open meadow habitat. As per the *Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E* (MNRF 2015), raptor wintering sites must be greater than 20 ha in size, with a combination of forest (i.e., FOD, FOC, FOM) and upland (i.e., CUM, CUT, CUS, CUW) habitat. No minimum size criteria are applied to upland areas. Given the presence of mixed meadow (MEM) and thicket (THC and THD) Ecosites within the Study Area, candidate habitat should be reassessed where these communities are considered upland habitat. Although Raptor Wintering Areas still may not meet SWH criteria based on the absence of wind swept areas and/or species observations, the absence of appropriate upland habitat should not be noted as the rationale for the lack of this SWH type in the Scoped EIS report (Stantec 2020).

Furthermore, the provincial status of all plant species and vegetation communities is defined by the status ranks (i.e., S1 to S3 and G1 to G3) provided by the Natural Heritage Information Centre (NHIC; NHIC 2020; NHIC 2018). Rare habitats are those with vegetation communities that are considered rare (i.e., S1 to S3) in the province based on rarity rankings applied to species at the provincial level, and are part of a system

developed under the auspices of the Nature Conservancy (Arlington, VA). It is assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are considered significant. The 2008 ELC codes provided within the Scoped EIS are incompatible with the vegetation communities defined by the province. Therefore, rare habitat types evaluated in Table 4.5 of the Scoped EIS should be reevaluated in the context of the previous ELC classification system (Lee et. al. 1998).

Overall, although Savanta appreciates that Stantec has applied the most recent ELC codes (Lee 2008), given that provincial and technical guideline documents have not been brought into conformity with the updated ELC designations (Lee 2008), we recommend refining ELC in conformance with Lee et. al. (1998).

3.2 Significant Natural Features

Section 5.0 (Significant Natural Features) of the Scoped EIS (Stantec 2020) identifies significant natural features as defined by the Provincial Policy Statement (PPS; MMAH 2020) and the City of Hamilton Official Plan (2012). However, it is our understanding that this section was also intended to address the treatment of significant natural features as per the PPS (MMAH 2020) and the Official Plan (2012). Therefore, all subsections of Section 5.0 (Significant Natural Features) should be revised to provide additional policy context in terms of potential constraints and implications to the proposed project.

4.0 POTENTIAL IMPACTS AND MITIGATION RECOMMENDATIONS

The direct and indirect impacts associated with the proposed easement expansion as well as potential mitigation and enhancement opportunities are assessed in Section 7.0 (Potential Impacts and Mitigation Recommendations) of the Scoped EIS (Stantec 2020).

As per the PPS (MMAH 2020), development and site alteration shall not be permitted in significant wetlands, or in significant coastal wetlands in Ecoregions 5E, 6E and 7E. Development and site alteration shall not be permitted in significant woodlands or significant valleylands in Ecoregions 6E and 7E, SWH, or significant ANSIs unless it has been demonstrated that there will be no negative impacts on the natural feature or their ecological functions. Allowances for infrastructure projects (e.g., oil and gas pipelines) may apply, as per Section 6.0 of the PPS (MMAH 2020), which exempts activities to create or maintain infrastructure authorized under the environmental assessment process from the definition of development. However, in accordance with Section 1.6.8.6 planning for corridors or rights-of-way for infrastructure facilities shall consider the natural heritage resources identified in above.

4.1 Potential Direct Impacts

4.1.1 Vegetation

Direct impacts with respect to vegetation, community types are summarized in Section 7.1.1 (Vegetation) of the Scoped EIS (Stantec 2020).

Direct impacts will result in minor encroachment (1.18 ha) into the edge of the significant woodland along FOCM1 and FODM5-4. Woodland compensation will be provided at a 2:1 area replacement ratio (800 to 1,000 trees per acre) as per the Enbridge standard tree replacement program.

As part of the Scoped EIS (Stantec 2020), a Compensation and Replanting Plan should be developed in consultation with HCA to address the loss in forest cover and to demonstrate that there will be no negative impacts to the natural features or their ecological functions as a result of the proposed easement expansion. The proposed plan should provide a restoration and enhancement framework that will contribute to positive ecological outcomes including conserving, protecting and enhancing biodiversity, and promoting the long-term ecological sustainability of natural features and functions. This Compensation and Replanting Plan would be intended to provide a generalized concept that could be implemented at any suitable location in the HCA watershed on HCA lands.

It is recommended that potential compensation locations be identified as part of the proposed Compensation and Replanting Plan. Preferred locations may include linkage areas connecting fragmented habitats and canopy gaps within existing woodlands. Final compensation areas should be confirmed with HCA prior to finalizing the Compensation and Replanting Plan.

4.1.2 Wildlife and Wildlife Habitat

Mitigation measures for direct impacts to wildlife and wildlife habitat (including SWH and Species at Risk) identified in Section 7.1.2.1 (Mitigation) recommend that tree removals within areas identified as bat habitat should not occur between May 1 and August 31.

Guidance provided by the MECP (Jeff Andersen) suggests that tree removals should not occur between April 1 and October 1 to prevent disruption to bats during critical reproductive and juvenile growth periods. If tree removal is required during this period, bat surveys must be completed by a qualified biologist. If no Species at Risk bats are observed, the tree(s) can be removed within 24 hours. It is recommended that Stantec revise tree removal timing windows with respect to bat habitat to ensure compliance with the most recent direction provided by the province.

Furthermore, the removal of candidate bat roost trees within the Study Area will result in negative impacts to Bat Maternity Colonies SWH. Management of habitat for bats is recommended to enhance existing habitat and maintain existing bat maternity colonies. Bat species have responded well to artificial structure use in Ontario (specifically multi-unit structures or rocket-box style versus typical small bat boxes). The installation of one artificial roosting structure for every four suitable roost trees removed within areas identified as candidate SWH is recommended to provide mitigation for the loss of woodland edge habitat.

Mitigation should also be provided for the direct removal of areas supporting Habitat of Species of Conservation Concern (i.e., Wood Thrush - *Hylocichla mustelina*; and Eastern Wood-Pewee - Contopus virens).

As per the Management Plan for the Monarch (*Danaus plexippus*) in Canada (Environment Canada 2014), Monarchs typically reach southern Ontario between the end of May and the first week of June, and produce two to three generations between June and September. Therefore, the vegetation clearing window defined within the Scoped EIS (i.e., April 1 to September 30) may be refined (i.e., late May to September 30).

4.2 Potential Indirect Impacts

4.2.1 Significant Wetlands

Indirect impacts to the Sheffield Rockton Provincially Significant Wetland Complex and associated Spencer Creek tributary should also be considered in the context of contributing fish habitat. Although no in-water works are anticipated, given that construction activities will occur near water, appropriate timing windows (i.e., July 15 to September 30 for cold-water habitat) and setbacks from features should be considered. As per technical correspondence with HCA dated September 6, 2019 (Appendix B; Stantec 2020), appropriate timing windows for Spencer Creek shall be applied once approval under the Endangered Species Act

(2007) has been obtained from MECP through the permitting process. It is recommended that these details be provided under Section 7.2.3 (Significant Wetlands) of the Scoped EIS report (Stantec 2020) for additional clarity.

4.2.2 Significant Woodlands

In accordance with the Natural Heritage Reference Manual (NHRM; MNR 2010), woodlands are generally not considered to be contiguous where gaps greater than 20 m in width occur between crown edges. It is expected that implementation of the proposed permanent easement expansion (16 m), in conjunction with the existing easement (approximately 25 m to 30 m), will establish a permanent canopy gap greater than 20 m. Direct and indirect impacts of further habitat fragmentation should be reviewed as part of the Scoped EIS, particularly as it relates SWH, and mitigation opportunities should be discussed in Section 7.2 (Potential Indirect Impacts).

4.2.3 Wildlife and Wildlife Habitat

Section 7.2.5 (Wildlife and Wildlife Habitat) of the Scoped EIS (Stantec 2020) outlines potential indirect impacts to SWH identified within the Study Area.

Within Section 7.2.5.1, it is noted that no direct impacts to bat maternity roosts are anticipated. However, the intention of Section 7.2.5 is to address indirect impacts to SWH; direct impacts should be discussed in Section 7.1.2. Furthermore, as discussed in section 4.1.2 (above) direct impacts to Bat Maternity Colonies SWH are expected as a result of the removal of candidate bat roost trees within the Study Area.

4.3 Mitigation Recommendations

Indirect effects are those potential effects on the biophysical environment that could potentially result in adverse impacts on adjacent natural heritage features and associated functions. As per Section 7.2 (Potential Indirect Impacts) of the Scoped EIS report (Stantec 2020), potential indirect impacts associated with the proposed easement expansion include:

- Changes in surface and/or groundwater inputs;
- Habitat degradation through spills/sedimentation;
- Sensory disturbance of wildlife during construction (e.g., noise);
- Movement of edge effects; and
- Disruption of wildlife movement patterns (e.g., Blanding's Turtle).

Potential indirect effects associated with construction are expected to be temporary as disturbance effects would no longer be present following the completion of construction. Measures to avoid and/or mitigate indirect impacts are summarized in Section 7.2.8.

Based on the proposed mitigation recommendations, additional details regarding the mitigation of changes in surface and/or groundwater inputs, sensory disturbance to wildlife and the migration of edge effects are required. In addition, mitigation recommendations that consider the disruption of landscape-scale linkages and corridors as a result of woodland fragmentation, invasive species management, and damage or stress to tree rooting zones adjacent to woodland edges should be incorporated into the Scoped EIS (Stantec 2020).

Maintenance Materials

It should be noted that straw bales used for maintenance and contingency purposes should be locally sourced to prevent the introduction of invasive species. Where available, straw bales originating from a location with no or a reduced amount of non-native species should be selected. If elevated levels of invasive species are identified during the source selection, alternative erosion and sediment control products (i.e., Filtrexx ®SiltSoxx™) should be considered.

Surface and Groundwater Inputs

Surface water and shallow groundwater flowing towards significant wetlands may be impaired due to construction activities. Stantec addressed dewatering and groundwater seepage concerns through technical correspondence with HCA on September 6, 2019 (Appendix B; Stantec 2020). It is recommended that this information be referenced in the Scoped EIS (Stantec 2020) for added clarity.

The contractor may also consider management of surface and/or groundwater inputs throughout the construction period as part of the overall Erosion and Sediment Control Plan.

Furthermore, a significant groundwater aquifer was identified within the footprint of the expanded easement as per local source water protection reports. Potential impacts to this feature and mitigation strategies should be identified within the Scoped EIS (Stantec 2020).

Sensory Disturbance

Sensory disturbance associated with the proposed easement expansion (e.g., heavy equipment movement) may cause wildlife to temporarily vacate habitats near construction. Given the existing surrounding land uses, it is expected that local wildlife communities are at least somewhat tolerant of anthropogenic disturbance. Although it is not expected that the additional disturbance generated from construction would have a measurable effect on the local distribution of wildlife, Savanta recommends that construction occur during the day to prevent interference with evening wildlife behaviours (e.g., amphibian calling periods).

Invasive Species Management

As per previous comments provided by HCA (Appendix B – August 20, 2019 correspondence; Stantec 2020), there are a number of invasive plant species present within the pipeline corridor (e.g., Japanese Knotweed - *Reynoutria japonica*). The introduction of invasive and non-native plant species along the disturbed margins of the development footprint may displace some native flora, particularly in areas where vegetation removals have created new woodland edges. In order to reduce opportunities for the colonization of invasive and non-native species, areas where disturbance has exposed bare soils should be seeded with a cover crop and native species seed mix.

Any topsoil used to replace soils within the pipeline corridor must be free of invasive species, as indicated by HCA (Appendix B – August 20, 2019 correspondence; Stantec 2020). Contaminated soils (i.e., containing invasive and non-native species) native to the site should be stockpiled within the same areas where soils have been stripped to minimize the spread of invasive and non-native species populations. Soil stockpiles should be monitored for weed growth during construction and corrective measures (e.g., spraying, mowing, hand pulling) should be implemented to minimize the potential for propagation to other areas of the site.

In order to restrict the distribution of invasive species during construction, implementation of the Cleaning Equipment Protocol for Industry (Halloran et al. 2013) during staging and construction phasing is also recommended and acknowledged by Stantec in correspondence dated September 6, 2020 (Appendix B; Stantec 2020). Construction equipment acts as a major vector for the unintentional introduction of terrestrial invasive species to new receptor sites. Specialized construction protocols will outline the sanitation of construction equipment moving between sites to minimize soil and seedbank transfer. Preventing the spread of invasive species is considerably more cost effective than controlling established populations and will minimize the need for invasive species management actions post-construction. The Scoped EIS (Stantec 2020) report should be updated to include references to the Cleaning Equipment Protocol for Industry (Halloran et al. 2013).

Woodland Edge Effects

Damage to the rooting zone of retained vegetation within woodlands adjacent to the proposed easement expansion may occur as a result of on-site grading and heavy equipment use. Risks to trees include root loss, soil compaction, and altered hydrology. The overall level of impact will depend on the final grading depths, and the frequency/size of existing tree roots within the disturbed area. Where possible, areas adjacent to woodland edges should remain intact and should not be used for the temporary storage of fill, topsoil, building materials, equipment storage, washing of equipment, or dumping of any construction debris.

5.0 ENVIRONMENTAL MONITORING AND CONTINGENCY PLAN

Proposed monitoring is intended to ensure that mitigation strategies and ecological restoration measures are effectively implemented, while contingency measures provide an adaptive management approach to unanticipated impacts or effects (Section 8.0 Environmental Monitoring and Contingency Plans).

Section 8.1.1 (Exposed Soils) identifies potential effects of soils exposed by construction activities. These potential effects should be revised to include the establishment of non-native and invasive species as soil disturbance will stimulate seed bank germination.

6.0 CONCLUSIONS

As per the recommendations defined herein, Savanta recommends revisions to the content of the Scoped EIS report (2020) prepared by Stantec to provide further clarity and/or detail in support of the proposed pipeline easement expansion on the HCA lands. Pending the aforementioned revisions to the Scoped EIS, Savanta is satisfied that the data collection methods, proposed timing windows, biophysical characterization of the Study Area, significance assessment, impact evaluation and mitigation measures have been adequately assessed.

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REFERENCES AND BACKGROUND MATERIALS

City of Hamilton 2012. Rural Hamilton Official Plan. Available online: https://www.hamilton.ca/city-planning/official-plan-zoning-by-law/rural-hamilton-official-plan

Environment Canada. 2014. Management Plan for the Monarch (Danaus plexippus) in Canada [Proposed]. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iv + 39 pp.

Halloran, J., Anderson, H. and D. Tassie 2013. Clean Equipment Protocol for Industry. Peterborough Stewardship Council and Ontario Invasive Plant Council. Peterborough, ON.

Lee, H.T., Bakowsky, W.D. Riley, J., Bowles, J., Puddister, M., Uhlig, P. and S. McMurray 1998. Ecological land classification for southern Ontario: first approximation and its application. Ontario Ministry of Natural Resources. Southcentral science section, Science Development and Transfer branch. SCSS Field Guide FG-02.

Lee H.T. 2008. Southern Ontario Ecological Land Classification – Vegetation Type List Ontario Ministry of Natural Resources.

Ministry of Municipal Affairs and Housing (MMAH) 2020. Provincial Policy Statement. Ontario Ministry of Municipal Affairs and Housing. Toronto: Queens Printer for Ontario 37 pp.

Ministry of Natural Resources (MNR) 2010. Natural Heritage Reference Manual for Policy 2.3 of the Provincial Policy Statement.

Ministry of Natural Resources and Forestry (MNRF) 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Available online: http://www.townofnemi.on.ca/wp-content/uploads/2016/02/NEMI-OP-App-C-schedule-6e-jan-2015-access-ver-final-s.pdf

Natural Heritage Information Centre (NHIC) 2020. Provincial status of plants, wildlife and vegetation communities database. OMNR, Peterborough.

Natural Heritage Information Centre (NHIC) 2018. Element summary for plants, wildlife and vegetation communities. OMNR, Peterborough.

Oldham, M.J., and S.R. Brinker 2009. Rare Vascular Plants of Ontario, Fourth Edition. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, Ontario. 188 pp.

Ontario Energy Board (OEB). 2016. Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016).

Stantec Consulting Ltd. (Stantec) 2020. Environmental Report. Guelph, ON.

Stantec Consulting Ltd. (Stantec) 2020. Dawn-Parkway System Expansion: Kirkwall-Hamilton Pipeline Section: Scoped Environmental Impact Study. Guelph, ON.