19 January, 2024

Coreena Smith, Senior Development Planner
Planning and Development
Corporation of the County of Bruce
Sent via email: cjsmith@brucecounty.on.ca

RE: Peer Review of Environmental Impact Study: 143 Victoria Street, Kincardine.
File Numbers: S-2023-006, L-2023-011, Z-2023-038

Dear Coreena:

The Corporation of Bruce County (*'the County'*) is currently reviewing an application to create a residential subdivision consisting of 62 detached dwelling lots. The subject lands consist of two contiguous lots (herein referred to as the 'subject property'), and are legally described as "143 VICTORIA ST – CON A PLAN 392 LOT 16 CON A;PT LOT 66 RP 3R2681 PART 1 &;2" and "CON A PT LOT 65."

An EIS has been prepared by WSP, dated February 14, 2023, and submitted to Bruce County for review. The 2023 EIS is an update to an EIS previously submitted by WSP in 2019. An EIS was also prepared for the subject property in 2009 by AWS Consulting. Upon Bruce County's request, NSE has completed a peer review of the 2023 EIS with consideration of the standards by which an EIS should fulfill certain requirements to ensure that a development application will conform with applicable natural heritage policies and legislation.

The peer review was completed as a 'desktop review.' No site visit was conducted by NSE as part of the review of the EIS.

In addition to reviewing the EIS, the following documents / items specific to this file were reviewed:

- Preliminary Stormwater Management Report, prepared by Cobide Engineering Inc., dated April 2023
- Functional Servicing Report, prepared by Cobide Engineering Inc., dated April 2023
- Geotechnical Exploration, prepared by Golder Associates Ltd., dated February 24, 2022.
- Wetland Evaluation (Hydrogeological), prepared by Gaman Consultants, dated May 2022
- Draft Plan, prepared by Cobide Engineering Inc., dated February 1, 2023.
- Planning Justification Report, prepared by Ron Davidson Land Use Planning Consultant Inc., dated April 10, 2023.

The following documents / items were taken into consideration for completing the review:

- Bruce County Official Plan (Office Consolidation, September 2022)
- Official Plan of the Municipality of Kincardine (Office Consolidation, April 2021)
- Corporation of the Municipality of Kincardine Zoning By-Law 2003-25
- Bruce County Interactive Mapping
- Aerial Imagery (Google Earth, 1954 Air Photos)
- MNRF / LIO Mapping
- Saugeen Valley Conservation Authority Regulation and Policy Manual (2018)
- Bruce County EIS Guidelines (2009)
- Natural Heritage Reference Manual (OMNRF, 2010)
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (OMNRF, 2015)
- Provincial Policy Statement (2020)
- Endangered Species Act (2007)
- MECP Protocols for bat surveys (various)
- MECP Directive regarding bats and the ESA (2022)
- DFO Aquatic SAR Map (2023), Ontario Reptile and Amphibian Atlas (2023)

Comments

Please find our comments appended to this letter.

Conclusion

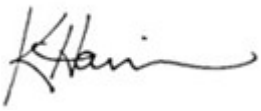
Based on a technical review of the EIS, we are of the opinion that it has not been demonstrated that the application conforms to applicable natural heritage legislation and policy, including natural heritage policies of the County of Bruce Official Plan and the Municipality of Kincardine Official Plan. We recommend a decision on the application be deferred until these comments have been satisfactorily addressed.

We recommend a comment and response matrix be submitted to address our comments provided below. Once all comments in the matrix have been satisfactorily addressed with the County, a revised EIS that addresses the comments should be submitted (a 'tracked changes' and a 'clean' version are appreciated).

Please contact the undersigned if you have any questions or require clarification on the comments.

Sincerely,

Leanne Wallis
Senior Ecologist, North-South Environmental Inc, Primary Reviewer



Kristen Harrison
Senior Ecologist, North-South Environmental Inc, Advisor and Senior Reviewer

Comments

Natural Heritage System

Comment #1: A discussion on the Municipality of Kincardine's Natural Heritage System (NHS) appears to be missing. Please add a discussion on Official Plan policies pertaining the NHS, and provide a reference to NHS mapping shown on Schedule B-3 of the Official Plan (2021).

As context, there are a number of background reports that supported the development of Kincardine's NHS, that do not appear to have been referenced in the EIS. These include Volumes 1 and 2 of the Natural Heritage Study for the Municipality of Kincardine (NSE and Dougan and Associates, 2009) and the Background Report for the Municipality of Kincardine Official Plan Review (MHBC and NRSI, 2021).

The 2009 report included field surveys scoped to the 'Schedule C Lakeshore Area' which is an area that includes the subject property. The NHS report states that this area was specifically chosen for field surveys as it was identified as a "coastal corridor" of "ecological significance" where "the greatest development pressures exist." The preliminary NHS identified in the report includes the current extent of the NHS on the subject property as shown in the Kincardine Official Plan.

The 2021 report states that the NHS identified in the 2021 Official Plan is based on the preliminary Natural Heritage System identified in 2009, with further refinements that took into consideration "several large-scale studies" including: the Greenway Vision for Grey and Bruce Counties (Ontario Nature and the Nature Conservancy of Canada 2008), MNRF's landscape connectivity analysis (Bowman and Cordes 2015), and High Value Biodiversity Areas as mapped by the Canadian Wildlife Service."

Recommendations:

a) A discussion of the subject property in the context of the Kincardine NHS should be included.
b) A discussion on policies and policy conformity with respect to the NHS should be included.

Grading Plan

Comment #2: The EIS acknowledges that grading impacts are not currently known, stating in Section 5: "site grading plans will be developed at detail design; however, for the purposes of this EIS it is assumed that grading will be limited to areas within the subject property, and outside of the proposed wetland buffer and tree retention areas".

We recommend that a grading plan is prepared and that the EIS be revised based on preliminary grading limits.

Our comment reiterates a previous comment by the peer reviewer of the 2019 EIS: "Typical EISs require the details of the proposed undertaking including grading, services, geotechnical or hydrological studies in order to assess potential impacts…the absence of these study for this EIS means that the site characterization, impact analysis and conclusions in the EIS will not be based on the necessary details of the undertaking" (NRSI, June 17, 2021).

Recommendations:

a) A preliminary grading plan be prepared.
a) The EIS be revised based on the preliminary grading plan. This should include, in part, a revised impact assessment to wetland and tree retention areas.

Change in Land Use Designation

Comment #3: The areas within the development envelope that are depicted as 'tree retention areas' on Figures 7 and 8 are proposed to be amended under a Local OPA from 'Natural Environment' to 'Shoreline Development.' This may reduce environmental protections to the existing woodland in these areas.

We note that post-occupancy, these woodland areas will be subject to numerous potential negative impacts, such as tree clearing (for aesthetics, hazard tree removal, installation of structures such as a pool, shed or fence), undergrowth clearing/mowing, and contaminated runoff (sediment, oil, gas, fertilizers), etc. Vegetation removals on private lots could also result in further fragmentation of woodland blocks.

The authors state that the proposed draft plan will retain ~30% of the woodland within the development envelope and have used this as rationale for removal of the ~70% of woodland within the development envelope. However, if the retained woodland areas are used to demonstrate that (through their retainment) there will be no negative impact to the woodland, then the authors should demonstrate that the retained woodland areas will continue in their present form and function, post-occupancy, and provide recommendations on planning tools that could be utilized to ensure such an outcome.

Recommendation:

a) Demonstrate which planning tools could be utilized to ensure tree retention on and adjacent to the private lots and the effectiveness of those measures (e.g., amending the draft plan to have all tree preservation areas as publicly conveyed blocks, retaining the Natural Environment designation on the tree preservation area and/or placing the tree preservation area in an Environmental Protection zone, incorporating the tree preservation plan in the subdivision agreement and having the agreement registered on title, other mechanism).

Potential for Successive and Cumulative Development Impacts

Comment #4: As has been discussed in previous comments, the draft plan as proposed would see all woodland on the subject property outside of the environmental block subdivided into 62 private development lots and supporting infrastructure (e.g., roads). While the EIS has stated that ~30% of the woodland will be retained, there does not appear to be suitable support for this statement at this time (i.e., assumed grading limits, assumed tree retention areas). Further, it has not been suitably demonstrated if, and how, the retained woodland units within private lots can retain their present form and function post-occupancy.

In addition to concerns regarding the extent of woodland that will be retained in its current condition as part of this development proposal, we would recommend that the EIS satisfactorily address the potential for successive and cumulative impacts to the contiguous woodland off-property.

In numerous sections of the EIS, the authors mention that the woodland on the subject property where development is proposed is only 20 hectares of a larger woodland (~390 hectares in size). The authors state that woodland off-property will be retained under the 'Natural Environment' designation, and therefore that the impact of woodland removal to accommodate the proposed development is "relatively minimal."

As examples of the extent of impact, the authors state that 5% of the total woodland (Section 9.3.1) will be removed, and 21% of deep interior woodland habitat will be removed (that provides confirmed significant wildlife habitat (SWH) for woodland area-sensitive birds, Section 9.3.4).

Underlying these statements is an apparent assumption that owners of adjacent and nearby properties *should* bear the continued responsibility of retaining natural habitat on their property in accordance with the 'Natural Environment' designation, and also that they *will* bear this responsibility. However, as this application demonstrates, Official Plan Amendment applications to remove the 'Natural Environmental' designation to permit development could be submitted for these properties.

In SVCA's pre-submission consultation comments they stated that "the EIS should address the impacts of the development on the woodland from a regional perspective, including the cumulative impacts of other development proposals…this woodland is part of the remaining 'Huron Fringe Forest' that parallels the shoreline of Lake Huron, and the remaining woodlands and their ecological functions along Lake Huron are being threatened as more development and resulting tree clearing occurs" (SVCA, Sept. 24, 2019).

The EIS appears to acknowledge SVCA's request in Section 9.4; however, it appears to deflect the assessment of cumulative impacts, stating, "the potential for cumulative impacts on a long-term landscape level must be considered by local municipalities and other planning authorities".

This is not consistent with direction in the Natural Heritage Reference Manual, Section 13.5.2.6, that states that a component of an EIS impact assessment is an "evaluation of the possible future and cumulative impacts of development that may occur as a result of demand created by the present

development (i.e., whether the proposal will lead to multiple or successive development or site alteration activities)."

It is also not consistent with the direction in the Provincial Planning Statement (2020) that a negative impact is defined as "degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to *single, multiple or successive* development or site alteration activities."

Recommendations:

a) Address if, and how, potential negative impacts could be fully avoided or mitigated on the subject property.
b) Address potential successive and cumulative impacts to natural features and their ecological functions in the context of development pressures in the area.

Significant Wildlife Habitat

The EIS has identified two (2) types of confirmed Significant Wildlife Habitat (SWH) and three (3) types of candidate (i.e., potential) SWH. The two confirmed types of SWH are: woodland area-sensitive bird breeding habitat, and habitat for Special Concern and rare species (Eastern Wood-pewee, Wood Thrush). The three candidate types of SWH are: bat maternity colonies, woodland raptor nesting areas, and habitat for Special Concern and rare wildlife species (Canada Warbler, Snapping Turtle).

The following SWH types were not identified as either confirmed or candidate SWH in the EIS. However, based on our review, we believe there are three additional candidate types of EIS: reptile hibernaculum, seeps and springs, and amphibian breeding habitat (woodland).

Reptile Hibernaculum

Comment #5: The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) state that "for all snakes, (reptile hibernaculum) habitat maybe found in any ecosite other than very wet ones."

This SWH type is assessed in the EIS as 'absent.' However, no targeted surveys were completed in the spring or fall to confirm absence of reptile hibernaculum SWH. Therefore, reptile hibernaculum should be listed as candidate Significant Wildlife Habitat (SWH). The extent of the candidate SWH is the entire property and adjacent lands within 120 m.

One snake was observed during field surveys, an Eastern Gartersnake. Further, per Section 7.3.4," given the characteristics of the Site, there is potential for several other species of reptiles…including Dekay's Brownsnake (*Storeria dekayi*), Red-bellied Snake (*Storeria occipitomaculata*), (and) Northern Watersnake (*Nerodia sipedon*). Further, the Ontario Reptile and Amphibian Atlas square that includes the subject property (17MK50) includes recent records of four additional snake species: Smooth Greensnake (*Opheodrys vernalis*), Eastern Ribbonsnake (*Thamnophis sauritis*), Milksnake (*Lampropeltis triangulum*), and Northern Ring-necked Snake (*Diadophis punctatus*).

Recommendations:

a) Revise the EIS to identify reptile hibernaculum as candidate SWH, indicate the area in which this SWH type occurs, and provide an updated assessment of impacts and recommended mitigation.
b) Indicate whether further studies will be completed to confirm the presence or absence of this SWH type, or whether the applicant intends to protect candidate SWH without further study (i.e., assume 'confirmed SWH') in accordance with the Natural Heritage Reference Manual, Section 9.3.2.
c) Alternatively, the EIS must provide suitable and adequate evidence to support the conclusion that this SWH type is not present.

Seeps and Springs

Comment #6: Clarification is needed on whether SWH for seeps and springs is confirmed or candidate. To qualify as SWH for confirmed SWH for seeps and springs, there must be 2 or more seeps/springs within a forested area within the headwaters of a stream or river system. The extent of the SWH is the whole ELC unit that the seeps or springs are found in.

This SWH type is assessed in the EIS as 'absent' within the SWH Assessment Table (Appendix F) stating "no seeps or springs were identified." However, Section 7.4.1 states that the aquatic habitat assessment of the tributary of Tiverton Creek identified groundwater discharge: "there is evidence of groundwater contributions (iron staining, oily sheen and seepage) to the creek" and describes the tributary as a "coldwater watercourse" that "originates as drainage from a swampy area located approximately 160 m" from the development lot.

Further, the ELC swamp unit through which it flows is Unit 4 (SWM4-1), as shown on Figure 3. SWM4-1 units are classified based on the presence of at least 40 cm of organic soils. In swamps, organic soils are often an indicator of groundwater discharge (as the formation of organic soils require anaerobic conditions that result from long durations of waterlogged conditions). The hydrogeological study/wetland evaluation (GAMAN, 2022) installed groundwater monitoring wells only to the west of the wetland; however, the authors state in Section 3.0 of their report that there could be groundwater contributions further east.

Recommendations:

a) Revise the EIS to clarify whether there is candidate or confirmed SWH for seeps and springs and provide an updated assessment of impacts and recommended mitigation.
b) If candidate SWH is identified, indicate whether further studies will be completed to confirm the presence or absence of this SWH type, or whether the applicant intends to protect candidate SWH without further study (i.e., assume 'confirmed SWH') in accordance with the Natural Heritage Reference Manual, Section 9.3.2.
c) Alternatively, the EIS must provide suitable and adequate evidence to support the conclusion that this SWH type is not present.

Amphibian Breeding Habitat (Woodland)

Comment #7: According to criteria in the "Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E" (MNRF, 2015), the presence of a wetland, pond, or woodland pool (including vernal pools) that is larger than 500 m^2 (about 25 m in diameter) is candidate SWH for the breeding of the following amphibian species: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog.

This SWH type is assessed in the EIS as 'absent'. Per Section 8.5, "one category of SWH, amphibian breeding habitat (woodland), was initially identified as candidate SWH; however, following completion of appropriate field surveys (refer to Section 7.3.2), it was determined that the habitat did not qualify as candidate and/or confirmed SWH." The report then goes on to explain that the determination of this SWH type being 'absent' is based on the "results from the amphibian calling surveys."

This is an incorrect conclusion as it only addressed habitat for amphibians that could have been determined based on amphibian calling surveys (i.e., frogs, toads). However, this SWH type also include habitat for Eastern Newt and two species of salamanders (Blue-spotted Salamander, Spotted Salamander). Per Section 7.3.4," given the characteristics of the Site, there is potential for several other species of reptiles and amphibians, including … Eastern Newt". Further, the Ontario Reptile and Amphibian Atlas square that includes the subject property (17MK50) includes recent records of Eastern Newt and Spotted Salamander. The two ponds located on the adjacent property to the south meet size and distance thresholds for this SWH type. Further, woodland pools of sufficient size may be present in the swamp (Unit 4 SWM4-1).

Candidate SWH for amphibian breeding habitat (woodland) should have been identified. The delineated habitat, per the SWH Criteria Schedules, is a 230 m radius of woodland area around the wetland. The EIS should identify for two ponds as Candidate SWH for amphibian breeding habitat (woodland) and provide an assessment on whether woodland pools are present within the swamp that would quality as candidate SWH.

Recommendations:

a) Revise the EIS to identify that there is candidate SWH for amphibian breeding habitat (woodland) and provide an updated assessment of impacts and recommended mitigation.
b) Indicate whether further studies will be completed to confirm the presence or absence of this SWH type, or whether the applicant intends to protect candidate SWH without further study (i.e., assume 'confirmed SWH') in accordance with the Natural Heritage Reference Manual, Section 9.3.2.
c) Alternatively, the EIS must provide suitable and adequate evidence to support the conclusion that this SWH type is not present.

Habitat for Endangered and Threatened Species

Butternut

Comment #8: All fifteen of the live endangered Butternut trees recorded on the subject property are within the development envelope and are likely to require removal or transplant. The EIS indicates that consultation has commenced with the MECP and that transplanting, and/or removal and payment into the Species at Risk Conservation Fund are being considered.

The subject property appears to be high-quality habitat based on the number of trees that are present. There is potential for ongoing Butternut regeneration to occur, especially given that all fifteen Butternut trees identified were seedlings and saplings.

Recommendations:

a) While administration of the ESA is the jurisdiction of the MECP, consideration for the loss of Butternut trees, and the permanent loss of habitat that could support regeneration of Butternut trees, should be considered as part of the evaluation of *cumulative impacts*.
b) Additional surveys for Butternut should occur before vegetation clearing and grading commences to identify if any trees, not previously recorded (especially seedings, saplings) are present. If newly identified trees are located, the MECP should be consulted.

Bats

Comment #9: Candidate habitat for Species at Risk bats was identified in the EIS. Correspondence is included in the EIS from the MECP (dated March 1, 2022) confirming the MECP is satisfied that there will be no impact to SAR bats "given the retention of 50% of the treed habitats on site (including the wetland and buffer area) and numerous roosting trees in conjunction with the proposed mitigation measures". The MECPs concludes with "Should any of the project parameters change please contact MECP for review."

Recommendations:

a) If project parameters change, the MECP should be contacted to confirm their direction as to whether the revised project will/will not contravene the ESA. Copies of correspondence should be provided to the municipalities.
b) While administration of the ESA is the jurisdiction of the MECP, consideration for the loss of existing cavity trees, and the permanent loss of habitat that could support future habitat (cavity trees), should be considered as part of the evaluation of *cumulative impacts*.

Wetland, Wetland Buffer, and Watercourse

Special Zoning for Wetland and Wetland Buffer Areas

Comment #10: We cannot support portions of the wetland and the wetland buffer being located within private lots. As noted through an earlier comment, there are limited mechanism(s) to manage or otherwise control activities on private lots, increasing the potential for future impacts associated

with occupancy of these lands. We would recommend that the wetland and wetland buffer be fully within the environmental block (Block 67) which is proposed to be transferred to public ownership.

Our recommendation is consistent with the Natural Heritage Reference Manual, Section 13.5.4.2: "Where feasible, buffers should not be located on lots privately owned by individuals. Rather buffers should be included into the same ownership as the feature that it is to protect. When buffers are incorporated into individual lots, consistent management of buffers is not possible. In such cases, different landowners will treat the buffer in various ways, and planning authorities will have little ability to enforce any zoning or covenants intended to preserve buffer function."

Recommendation: Revise the draft plan so that the wetland and the wetland buffer are fully within the environmental block (Block 67) which is proposed to be transferred to public ownership.

Wetland Characterization

Comment #11: The characterization of wetlands in the EIS appears to be incomplete. As potential impacts and recommended mitigation are contingent on a full and accurate characterization of existing conditions, the conclusions of the EIS do not appear to be supported.

a) An EIS should address adjacent lands within 120 m of the subject property in order to meet requirements in the Bruce County Official Plan (Section 4.3.3 Requirements for Environmental Impact Studies), and the Kincardine Official Plan (Section C2.3.7). However, Ecological Land Classification (ELC) mapping on Figure 3 has only been provided for the subject property, despite the study area being depicted as the subject property plus adjacent lands to 120 m on Figure 2.
b) Consequently, the boundaries of ELC wetland units 4 (SWM4-1) and 5 (SWT3) are not shown beyond the property boundary. If ELC boundaries of these wetlands had been extended onto adjacent lands, in our opinion, (based on the ELC mapping shown on Figure 3, the wetland delineation shown on Figure 7, and aerial imagery interpretation) there is a strong likelihood that the wetland units located on the subject property are part of a larger contiguous wetland that includes the unevaluated wetland unit located 105 m to the north, and the unevaluated wetland located 125 m to the south (see Figure 2).
c) In Section 8.4, the authors provide the following comment on these two nearby unevaluated wetlands: "field verification of offsite wetlands was not completed due to their locations beyond the boundaries of the site." However, i) Figures 4, 6 and 7 show that field surveyors did indeed visit the unevaluated wetland to the south (Figure 4) and delineated the wetland boundary in proximity to the unevaluated wetland to the north (Figure 7) and ii) even if this had not been the case, standard practice is to apply aerial imagery interpretation when access to offsite areas is not available.
d) The authors state in Section 8.4 that the unevaluated wetland on the subject property was "greater than originally mapped (on Provincial mapping) and is thought to extend approximately 460 m westerly into the Site." However, the description does not indicate that the wetland on the subject property (site) and the unevaluated wetland to the north are contiguous, i.e., are one wetland, or that, based on aerial interpretation, Unit 5 (SWT3) extends south along the watercourse to connect with the unevaluated wetland to the south.

e) The site walk to review the wetland delineation occurred later in the season (October 27, 2021) than is typical. Wetland delineation should typically occur between June and late September/early October as wetland vegetation is the primary determinant. It is unclear why a site walk at this time of the year was selected. While we are not proposing a re-staking, we provide this comment to inform any future identified issues with the wetland limit.
f) The EIS does not state whether the wetland limit was surveyed by an Ontario Land Surveyor, nor does it state the accuracy of the GPS survey equipment that was used. This is important as the '30 m wetland buffer / development limit' shown on Figure 7 informs the extent of development and site alteration permitted.
g) The peer reviewer of the previous EIS submission stated that "the authors should comment (in the EIS resubmission) on whether the unevaluated wetland would be PSW (provincially significant wetland) …". The authors, in their response stated that "reviewing unevaluated wetlands for consideration as a PSW…is the responsibility of the MNRF." This is incorrect. Any person certified by the MNRF in the Ontario Wetland Evaluation System (OWES) can conduct a wetland evaluation.
h) Given that the EIS identifies that there are potential impacts to the wetland on the subject property, it is our opinion that an OWES evaluation is required to inform applicable policies, regulations and the management approach required for this feature. Alternatively, the EIS must apply the precautionary principle and assume the wetland is provincially significant (PSW). If the wetland had been evaluated as a provincially significant wetland, and the evaluation was accepted by the MNRF, this would require conformity with policies with respect to PSW's, including those in the PPS. It would have also increased the wetland 'area of interference' to which the SVCA Regulations apply, from 30 m to 120 m from the wetland boundary (per SVCA Policies under 3.7.2.3).

Recommendations:

a) Provide revised ELC mapping for adjacent lands within 120 m (i.e., for the whole study area).
b) Update the characterization of wetlands in the study area (e.g., identify whether contiguous wetland is present).
c) Complete an OWES evaluation of the wetland to determine if it meets criteria for provincial significance. Or alternatively, revise the EIS to apply the precautionary principle and assume the wetland is provincially significant (PSW).
d) Confirm whether the wetland limit shown on Figure 7 is the 'SVCA verified limit' based on the October 27, 2021 site walk.
e) Provide details on how the wetland limit was surveyed (e.g., whether it was surveyed by an Ontario Land Surveyor, provide the accuracy of GPS survey equipment).
f) Update ELC mapping of wetland units on Figure 3 to match the SVCA verified limits.

Watercourse Characterization

Comment #12: There appears to be an incomplete characterization of the watercourse in the EIS. As potential impacts and recommended mitigation are contingent on a full and accurate characterization of existing conditions, the conclusions of the EIS do not appear to be supported.

We provide the following comments:

a) Mapping of the watercourse has only been provided for the subject property (Figure 7). No mapping of the watercourse off-property has been provided (either based on field surveys, secondary sources, or aerial imagery interpretation)
b) The description of the tributary location in Section 7.4.1 reads: "The aquatic habitat in the Tributary of Tiverton Creek was investigated. The tributary is a permanent coldwater watercourse that originates as drainage from a swampy area located approximately 160 m *southeast* of the development lot. It flows as a defined channel for 300 m through woodlands and wetlands before outletting into a series of two online ponds." Do the authors mean *northeast*? The two online ponds are presumably the ones south of the site.
c) Aquatic habitat assessment data sheets have not been appended to the report. These are helpful to provide context for the summary in Section 7.4.1 (such as the location of the watercourse) and to provide additional details.
d) Section 7.4.1 states that "there is evidence of groundwater contribution (iron staining, oily sheen, and seepage) to the creek". These locations should be mapped.

These comments are consistent with those provided as part of comments on the 2019 EIS wherein the peer reviewer requested "further analysis of the watercourse to confirm where it flows, species, upwellings, etc." (NRSI comments, June 17, 2021).

Recommendations:

a) Review, and revise as necessary, the wording provided in Section 7.4.1 on the watercourse flow path.
b) Provide mapping of the tributary on adjacent lands, to the extent possible.
c) Append the Aquatic Habitat Assessment data sheets to the EIS.
d) Provide locations of groundwater discharge on a figure.

Assessment of Sensitivity and Significance of the Wetlands and Watercourse

Comment #13: Based on our interpretation, it appears that the three unevaluated wetland units are part of a single large contiguous wetland, and that the watercourse, a tributary of Tiverton Creek, flows through it.

Combined, they provide: fish habitat, confirmed and candidate habitat for Endangered and Threatened Species, and confirmed and candidate Significant Wildlife Habitat. The wetland unit (SWM4-1) is also part of a significant woodland. There is potential that the wetland(s) may be provincially significant.

Assuming this characterization is correct, then the sensitivity and significance of the wetland should be assessed on this basis.

Recommendations:

a) If the three unevaluated wetlands are determined to be part of (or likely part of) a contiguous wetland through which the watercourse flows, then provide a more thorough assessment of the wetlands and watercourse for sensitivity and significance.
b) Re-evaluate the proposed 30 m wetland buffer to confirm or update the recommended buffer width in consideration of this updated information. Determine if an increased buffer is required.

Stormwater

Comment #14: The Preliminary Stormwater Management Report (Cobide Engineering, April 2023) states that there will be an increase in overland flow to the wetland from pre-development to post-development conditions (i.e., from Existing Catchment Area 103 to Proposed Catchment Area 202).

Per SVCA Policy 3.7.2.3-7, it is best management practice to maintain water balance.

The EIS only briefly mentions feature-based water balance to the wetland, though the comment addresses septic discharge, not stormwater. The authors state in Section 5 that "installing on-site sewage systems within the subdivision is expected to benefit the overall hydrogeological water balance of the site." No supporting rationale for this statement has been provided.

Post-development increases in overland flow could negatively impact the wetland [e.g., changes to the type and relative abundance of vegetation species, amount of standing water, impacts to Black Ash (SAR)]. Potential impacts to water quality could also occur (e.g., introduction of sediment / oil / fuel / fertilizers / de-icing salts / litter).

This report also includes recommendations for erosion and sediment control. However, these recommendations differ from those recommendations provided in the EIS.

Recommendations:

a) Provide a discussion of feature-based water balance to the wetland, including identifying potential negative impacts.
b) Provide recommended measures to mitigate negative impacts.
c) Align recommendations for erosion and sediment control between the Stormwater Management Report and the EIS Report.

Hydrogeology

Comment #15: The wetland evaluation completed by GAMAN Consultants Inc. provides the results of a hydrogeological assessment of the wetland located to the east of the proposed development envelope, to determine if the wetland could potentially be impacted by groundwater changes as a result of the development proceeding. Based on the description of site investigations (Section 3.0 of the report) groundwater levels were monitored on two dates: April 20 and May 3, 2022. Supplemental groundwater levels were collected on the drilling date of December 2, 2021.

The collection of groundwater data on only two dates within two weeks of each other appears insufficient to support the conclusion that the wetland does not receive groundwater inputs from

the area within the proposed development envelope. Groundwater data collected over a full year is typically required to account for seasonal fluctuations.

Recommendations:

a) NSE defers to Kincardine, Bruce County and SVCA regarding technical review of the hydrogeological assessment to determine if it meets study standards and can be accepted.
b) That if a revised hydrogeological assessment is required, that the EIS impact assessment be updated accordingly.

Comments concluded.