ORE
Oakridge Environmental Limited
Environmental and Hydrogeological Services

November 17th, 2023

D.G. Biddle & Associates Ltd.
Consulting Engineers and Planners
96 King Street East
Oshawa, Ontario L1H 1B6

Attention: **David McNaull, P. Eng.**

Re: Response to ORCA Comments
Re: Natural Heritage Evaluation (NHE) and Previous Two (2) Responses
Proposed Turner Street Extension Residential Development (Veltri)
Part Lot 11, Concession 5 (Cavan)
Township of Cavan Monaghan, County of Peterborough
ORE File No. 15-2013

Dear Mr. McNaull:

1.0 Introduction

As requested, we have completed our review of the most recent (and 3rd round) of Otonabee Region Conservation Authority (ORCA) comments (Plan Review and Permitting Services Memo) submitted on February 4, 2022. The majority of issues/concerns are related to the submission of the revised Site Plan and discussions resulting from the site meetings with ORCA staff (at which time the majority of the issues/concerns appeared to be resolvable). ORE staff have addressed the comments in the order of appearance in the Memo.

There are some instances where the ORCA comments pertain to engineering, slope stability and ecological matters combined. These items were discussed with D.G. Biddle & Associates Ltd. staff and a coordinated response has been prepared herein to address those items, such as the proposed north SWMP and slope stability in the southern portion of the property near the proposed Turner Street extension. It is understood that D.G. Biddle and GHD have also addressed the SWMP and slope stability questions ORCA asked in their respective reviews. While their responses should be similar to those in the Ecological Review response, some additional details may be provided in their responses. ORE expects that many of the engineering, slope stability and ecological concerns have been addressed by the new Draft Plan and Conceptual Servicing Plan.

Figure 6r (Constraints Plan) has been updated to reflect the Draft Plan (as revised by D.G.

Biddle in response to the most recent comments). The Project Team is in favour of the revised Draft Plan/Conceptual Servicing Plan and it should be allowed to proceed to the detailed design stage. It is ORE's opinion that several of the concerns with respect to keeping the development outside the Significant Woodland and Wetlands/Watercourse boundaries (including the 30 m VPZ of the Key Hydrologic Features) have been addressed in this round of comments. However, some of the comments would typically be addressed at the detailed design stage.

2.0 ORCA Ecology Review Response

2.1 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 a) and 1 b):

"a) Based on comments to date, which include technical staff observations, the lands along Turner Street represent a wetland to upland gradient of eastern white cedar dominated areas. While technical staff are still of the opinion that the wetland boundary along Turner Street is further north than what has been mapped by ORE, given wetland boundaries are not static, i.e., may expand in wet years or retract in dryer years, technical staff accept the area labelled as 'ephemeral drainage boundary' on 5r (August 2021) to be the current wetland boundary location."

ORE Response:

- No further action is required in this regard. The wetland boundary was established based on a combination of active seeps, soils and vegetation and is acceptable to ORCA.

"b) According to ORE, "development will remain entirely outside of the 30 m VPA setback of all hydrological features" and "if the 30 m setback cannot be achieved/maintained from the wetland, or if the proponent would like to challenge the wetland boundary, a Wetland Evaluation must be completed to the MNRF's satisfaction" (see ORE comments pages 9-15 & 18)."

ORE Response:

- The revised Draft Plan (Appendix A) and Conceptual Servicing Plan (Appendix B) now complies with the 30 m VPA setback for all hydrological features. Therefore, it will not be necessary to challenge the wetland boundary or complete a Wetland Evaluation to the satisfaction of the MNDMNRF.

2.2 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 b):

"*Based on the information/conclusions provided by ORE and others below, technical staff are still of the opinion that consistency with PPS 2.1.2, 2.1.4 a), 2.1.8 and 2.2.1, as these provincial policies relate to hydrologic features and functions, has not been demonstrated*:"

ORE Response:

- The following presents excerpts from each Section of the PPS outlined by ORCA (in italics) followed by ORE's responses demonstrating conformity:

2.2.1 Section 2.1.2 of the 2020 PPS states:

"The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features."

ORE Response:

It is ORE's opinion that Section 2.1.2 of the PPS has been met, as the development is being targeted within the existing disturbed/former farm field areas on the property. The meadow areas and poor quality shrubby edges around the areas identified as Significant Woodlands are not part of the site's natural heritage nor part of the surrounding linkable areas. The limited connectivity that exists along Turner Street will be retained (limited due to existing residences in this area). The wetland areas and majority of the woodland corridors will be retained under the current plan, which retains the wildlife corridors and connectivity with respect to other woodlands, wetlands and drainage corridors.

Insofar as those areas of the Significant Woodland's 30 m VPZ that will be encroached upon, these will be mitigated elsewhere via intensive plantings/naturalization on-site. The proposed planting areas are identified on Figure 6r. The planting of these edge areas between the proposed development and core woodlands will improve connectivity between woodland tracts and will improve the quality of runoff being directed to the wetland/waterways (e.g., the areas east of proposed lots 59, 60,61,62 and 73).

There is also the potential to naturalize the entire SWMP area that is currently farm field, once it is constructed. It would create a new intermittent water feature habitat that wildlife

could utilize. The pond will not be perennially wet due to infiltration. Therefore, a wide variety of species could utilize this area throughout the year.

These types of improved habitat settings around the periphery of the development areas will enhance more area than what would be displaced by the proposed development, which is consistent with the PPS and OP requirements. Both the Township and ORCA will be kept apprised of these improvements and enhancements during the detailed design stage. The planting/improvement areas will be surveyed and cordoned off once all of the areas of opportunity to in-fill with natural vegetation are identified. These improvements will form part of the subdivision agreement.

2.2.2 Section 2.1.4 a) of the PPS is addressed below in Section 2.3 of this response.

2.2.3 Section 2.1.8 of the PPS states:

"*Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions*."

ORE Response:

The revised Draft Plan and Conceptual Servicing Plan conforms to PPS Section 2.1.5 as the development remains outside the following features and any development proposed within the adjacent lands will not compromise the form and function of the KNHF:

- a) The adjacent lands have been evaluated and the proposed development will not impact the form or function of the hydrologic features which is consistent with Section 2.1.5.

- b) Some minor encroachments will occur within the adjacent lands (30 m VPZ) of the significant woodland identified on the property. However, these areas will be compensated for through planting enhancement/improvements as per the OP requirements. Regardless the form and function of the significant woodland will not be compromised, consistent with PPS Section 2.1.5.

- d) No portion of the development will occur within the Significant Wildlife Habitat areas of the property, which coincides with the two (2) habitats identified above. None of the SWH are associated with the adjacent lands areas, therefore, the development is consistent with PPS Section 2.1.5.

2.2.4 As for Section 2.1.6:

"*Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements*."

ORE Response:

- The development will occur 30 m or greater outside those watercourse habitats that are considered fish habitat. The creek systems include the permanent flows towards the base of the slope associated with Turner Street and the flows in the northeast corner of the property associated with Little Creek.

- D.G. Biddle and Associates has revised the SWMP to include an outflow channel to Little Creek. However, the pond is to be situated 30 m or more from this feature which complies with Section 2.1.6 of the PPS.

2.2.5 Section 2.2.1 of the PPS states:

"*Planning authorities shall protect, improve or restore the quality and quantity of water by:*

a) using the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development;

b) minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;

c) evaluating and preparing for the impacts of a changing climate to water resource systems at the watershed level;

d) identifying water resource systems consisting of ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas, which are necessary for the ecological and hydrological integrity of the watershed;

e) maintaining linkages and related functions among ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas;

f) implementing necessary restrictions on development and site alteration to:

1. protect all municipal drinking water supplies and designated vulnerable areas; and

2. protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions;

g) planning for efficient and sustainable use of water resources, through practices for water conservation and sustaining water quality;

h) ensuring consideration of environmental lake capacity, where applicable; and

i) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces."

ORE Response:

a) The proposed SWMP will ensure that the quality of runoff generated on-site meets the guideline requirements. In addition, the SWM pond will be situated 30 m or more from the wetland/watercourse natural corridor features, thereby protecting the existing hydrologically sensitive features on-site.

The naturalized areas resulting from the planting plan requirements will improve and enhance the waterways which will enhance the ecology of these features.

b) The 30 m VPZ will be maintained, therefore, localized flows will be directed to their appropriate basins. In addition, each SWMP will collect and direct the captured the runoff to their corresponding watershed to prevent cross-watershed impacts.

c) The 30 m VPZ, retention of the Significant Woodland areas on-site and SWMPs will mitigate impacts to changing climate with reference to water resource systems at the watershed level.

d) The wetland/watercourse 30 m VPZ and retention of woodland cover via the Significant Woodland boundary will protect ground water features, the hydrologic function of the coldwater streams, the associated natural heritage features/linkage areas, and surface water features including shoreline/riparian habitats, which comprise the ecological and hydrological integrity of the watershed.

e) Linkage and related functions associated with the Significant Woodland - Wetland/watercourse and 30 m VPZ will be retained in their current state. There are also plans to improve the woodland areas where possible on the site via the planting

areas identified on Figure 6r.

f) 1. Although, there are no municipal drinking water supplies directly in the area of the proposed development, the retention of the existing groundwater contributions will retain the quality of the tributary and Little Creek, which are part of the overall groundwater functions associated with Municipal Water Supply; and

2. The hydrological function of the groundwater contributions and coldwater stream areas in the watershed will be protected and vegetated areas between the proposed development and these watercourses will be improved or enhanced as part of the development process.

g) The proposed SWM ponds will treat the runoff from proposed development in the post development era, which represents an efficient and sustainable use of water resources. Furthermore, the infiltration of the runoff in the SWMP and discharge of these treated waters to the local streams will sustain the water quality to these hydrologic features. The application of LID techniques and facilities in the development areas will also sustain the water resources by improving water quality and reducing runoff.

h) Lake capacity is not applicable in this instance.

i) The proposed SWM ponds and application of LID elements will minimize stormwater volumes and contaminant loads. The naturalization of the ponds and widening of KNHFs due to compensatory plantings will increase the extent of vegetative surfaces on-site. The incorporation of the LID elements will also decrease impervious surface content with respect to collection of the runoff.

Therefore, the proposed development would comply with Section 2.1.8 of the PPS and all of the subsections it refers to in 2.2 above.

2.3 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 c):

"c) All new development and site alteration avoid wetlands/hydrologic features and the associated 30-m buffer/VPZ in lieu of an OWES evaluation to demonstrate consistency with PPS policy 2.1.4 a) and associated policies listed above. (Please note that development does not include activities that create or maintain infrastructure authorized under an environmental

assessment process according to the PPS definition)."

Section 2.1.4a of the PPS states:

"*Development and site alteration shall not be permitted in:*

a) significant wetlands in Ecoregions 5E, 6E and 7E1;"

ORE Response:

The previously proposed lots along the Turner Street Extension have been removed and no development is proposed down the slope on the east side of the access road entering the subdivision. A small stormwater management pond is to be constructed in the open field/meadow area outside any/all KNHFs. It will occur with the 30 m VPZ of the Significant Woodland. However, the pond (and disturbed area around the pond) will be included in the proposed planting areas such that this area will eventually become part of the woodland habitat.

All of the lots in the proposed subdivision occur outside the 30 m setback/VPZ identified from all wetlands and watercourses on the subject property. In addition, any/all stormwater management features occur 30 m or more outside the identified wetlands and watercourse habitats identified on the property, which is consistent with Section 2.1.4 of the PPS.

2.4 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 d) stated:

"*d) Would grading into the 30-m wetland buffer still be necessary if lot fabric was reconfigured? To satisfy relevant policies, technical staff recommend using Lots 54 and 55, and associated blocks, as a planting area to compensate wetland/woodland loss from the proposed upgrades to existing uses (e.g., road widening and/or recreational trails).*"

ORE Response:

- The Draft Plan and the engineering plans have been updated so that the lot fabric and associated proposed grading and servicing will be outside the wetland 30 m buffer. This should no longer be a concern.

- Figure 6r includes the Draft Plan (Appendix A) which demonstrates compliance with establishing a 30 m VPA off the Wetland boundary throughout the property.

- Lots 54 and 55 have been removed within the block that was proposed along the east side of the Turner Street Extension on the steep section of the hillside. A small SWM Pond is now proposed to occur in this area, however, it occurs entirely outside the 30 m VPZ of the wetland and outside of the boundary of the Significant Woodland. Once the pond is constructed in the small meadow opening towards the top-of-bank, it can become part of the planting area to compensate for similar encroachments into the Significant Woodland 30 m VPZ, as per ORCA's recommendation above. The small southerly SWMP area is identified on Figure 6r as a planting area.

2.5 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 e):

"*e) The slope stability should be addressed prior to detailed design to ensure additional policies are not triggered should the SWM pond be relocated elsewhere on site.*"

ORE Response:

- A slope stability assessment report has been prepared by GHD (dated March 7, 2023). The slope stability assessment reviewed the existing and proposed conditions at each stormwater management pond location and determined these areas to be stable. No setbacks in addition to the 30 m VPZ are necessary based on the slope stability study.

- The detailed Conceptual Servicing Plan will include construction drawings on how the proposed stormwater management ponds are to be constructed. The Conceptual Servicing Plan also includes an infiltration gallery in the boulevard that will collect the majority of the runoff from the roadside LID swale areas. The interim and permanent erosion-sedimentation controls necessary to ensure these features remain stable once the ponds are constructed will also be included at the detailed plan and design stage.

2.6 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 f):

"*f) Technical staff support a naturalized SWM pond and recommend incorporating planting principles outlined in TRCA and CVC SWM criteria planting guidelines into the site's Landscape/Planting Plan. (Monitoring of planting success is also recommended.).*

ORE Response:

- ORE staff will utilize the TRCA - Stormwater Management Pond Planting Guidelines, September 2007, to draft a Landscape/Planting Plan for the northern and southern proposed SWMPs.

- Monitoring will be included as part of the plan, as per the TRCA requirements which states:

  The permanent water elevation in the SWM pond should be observed twice a year for approximately two years by both the design engineer and landscape architect to ensure that the facility is functioning as designed, prior to planting aquatics (other than temporary planting of cattails in sediment forebay) in order to allow time for conditions in the pond to stabilize. Pending these observations and discussions with ORCA staff, revisions to the planting plan for vegetation zones 1-3 may be necessary. A two year guarantee of the planted material is required."

- A natural channel feature is proposed to outlet the SWMP and discharge to Little Creek. The outlet pipe will be located at the base of the pond and release runoff over a 24 hour period. The channel feature will be lined with FM200 Turf Reinforcement Matt and will have velocity check dams to slow the release of any flows to ensure disturbance of the downstream Creek is minimal.

  In order to outlet the SWMP flows directly to Little Creek, a permit will be required from the Department of Fisheries and Oceans (DFO). The permit would be obtained at the detailed design stage. D.G. Biddle has sized the pond to allow the water to be slowly released to Little Creek over a 24 hour period. Provided standard mitigation measures are applied during construction of the channel and for the post construction era, the risk to fisheries would be very low. D.G. Biddle and ORE will provide a design that mitigates impacts to fisheries within Little Creek to the satisfaction of DFO. Provided a permit is obtained from this agency, both ORCA and the Township should be satisfied in this regard.

- In addition to the pond, D.G Biddle is also proposing an infiltration system in the boulevard. This LID facility will collect runoff from the street swale system and recharge the runoff to the ground surface whereby it will ultimately reenter the wetland to the east as shallow groundwater seepage. Impacts to this feature would be undetectable and this arrangement is considered the best scenario with respect to maintaining a positive flow regime in the subwatershed.

2.7 Under Otonabee Region Conservation Authority (ORCA) Ecology Review - Authority Comment 1 g):

"*g) Otonabee Conservation policies 7.0(1), 7.1(1, 2, & 6) and 7.2(2, 4, 8, 10, & 16) direct development outside of wetlands and/or within 30-metres of the wetland boundary.*

- *ORE confirms wetland communities SWC1-1, SWT2, and SWM1-1 maintain the same boundary as the 'ephemeral discharge' area. Updated plans will rename 'ephemeral discharge' area to 'wetland' in support of the Otonabee Conservation permit.*

- *Fill placement within 30-metres of a wetland to create new residential lots is not consistent with regulatory policies. Grading limits should end 30-m from the wetland boundary to be consistent with regulatory policies 7.1(1 & 2) and 7.2(2, 4, & 16) and the EIS recommendations.*

- *Whenever possible, existing trails or disturbed areas should be used for recreational purposes to minimize impacts to wetlands. To satisfy Otonabee Conservation policies 7.1(6) and 7.2 (10), additional technical review by a qualified professional of the proposed trail network is required that includes measures to avoid wetland features and offset impacts (e.g., wetland compensation plan).*

- *To satisfy Otonabee Conservation policy 7.2(8), an ecological review of the engineered solutions that confirms hydrological and ecological functions are maintained is required where encroachment into the wetland is proposed to support upgrades to Turner Street."*

ORE Response:

- The plans have been updated to refer to the ephemeral discharge areas as "wetland" in the *SWC1-1, SWT2, and SWM1-1* communities on Figure 5r (Vegetation). ORCA agrees with the location of the ORE-defined wetland boundary provided on Figure 6r and within the Draft. The 30 m VPA has been applied to the ORE wetland boundaries which is consistent with the OP and PPS requirements to protect the on-site wetland features.

- Fill Placement and Grading limits all occur 30 m or greater from the wetland boundary, therefore, are consistent with ORCA's regulatory policies 7.1(1 & 2) and 7.2(2, 4, & 16) and also the NHE recommendations in the revised Draft Plan/Conceptual Servicing Plan.

- It was determined that a separate EIS would be completed to review the best

location for the proposed trail to link the development to the existing walking infrastructures along King Street. The EIS will discuss compliance with Otonabee Conservation policies 7.1(6) and 7.2 (10), and all attempts will be made to use any/all narrow dry crossings as they relate to the wetlands and/or coldwater tributary feature between the proposed development and King Street.

The proposed trail route(s) would be demarcated in the field. ORCA and ORE staff would determine on-site which is the best route. The EIS would also identify whether anything needs to be constructed to span the channels/wetland vegetation swaths. ORE staff would rely on ORCA's review of the EIS to ensure it is consistent with their policies.

- D.G. Biddle and Associates shall design the proposed crossings associated with upgrades to Turner Street and ORE can review/assess the proposed engineered crossings in the context of ORCA's Policy 7.2(8). The assessment would demonstrate that the proposed road upgrades have considered all alternatives to avoid intrusions on hydrologic wetland functions and that the proposed alignment minimizes wetland interference to the greatest extent possible.

2.8 Under Fish Habitat Features & Functions ORCA stated in Section 2 a:

"*2 a) To demonstrate consistency with the intent of PPS policy 2.1.2, 2.1.6 and 2.2.1, as well as ORE comments on pages 7, 11 and 18, to protect cold-water fish habitat and seeps within the valley (Figure B), development and site alteration should avoid encroachment into these hydrologic features and the 30-metre buffer/VPZ (orange circle)..*"

ORE Response:

- The Draft Plan and Conceptual Servicing Plan has been revised to locate all of the development outside the 30 m VPA of any/all hydrological features (including seepage zones) that possess or contribute to coldwater fish habitat. The only form of development that could encroach within the 30 m VPZ includes construction of the outflow channel for the SWM Pond in the northern portion of the subject property and any upgrades with respect to Turner Street (if necessary).

- D.G. Biddle is proposing to construct a naturalized outflow pipe/channel system between the pond and Little Creek to drain the pond to Little Creek over a 24 hour period. The 24 hour slow release period should be sufficient to prevent runoff from being exposed to the elements for long durations and releasing

warmer flows to the creek. The channel will be lined with FM200 Turf Reinforcement Matt and will have velocity check dams to slow the drainage and ensure disturbance to the downstream environment of the creek is minimal.

D.G. Biddle and Associates have illustrated the outlet on the Grading Plan and refer to this feature in their SWM/FSR Report. According to D.G. Biddle and Associates, the slow release and pipe bottom draw will ensure the waters being discharged to Little Creek will not have a significant temperature gradient impact on this coldwater feature.

- The proposed infiltration facility in the boulevard directly upgradient of the wetland to the east will accept a portion of the runoff within the subdivision. The infiltrated flows will recharge the subsurface, ultimately discharging as seepage to the wetland. This scenario is ideal with respect to maintaining a positive flow/moisture regime within the subwatershed of the easterly wetland.

2.9 Under Fish Habitat Features & Functions ORCA Stated in Section 2b:

" *b) If the Planning Authority supports the SWM pond location and design, technical staff recommends a project review by a fisheries biologist to demonstrate compliance with the Fisheries Act (FFHPP Regulatory Review Process Map (dfo-mpo.gc.ca) and consistency with PPS policy2.1.6 as a condition of approval.*

The applicant should demonstrate how the SWM outlet complies with the Fisheries Act, i.e., how the location of the outlet minimizes impacts to fish and fish habitat within the feature (e.g., does the outlet avoid groundwater upwelling/preferred spawning habitat for brook/brown trout?). These details have not been provided in the technical reports. Given changes to the outlet design may impact the overall SWM pond location and lot layout, technical staff recommend addressing these issues prior to detailed design.

Technical staff recommend the following to satisfy Otonabee Conservation permit policies: c) Details of the SWM pond outlet design is required to satisfy Otonabee Conservation policy 8.1(9). Please include natural channel design principles to the outlet channel and an ecological opinion/written response (sign off) from ORE, in collaboration with D.G. Biddle & Associates/other consultants, that confirms infrastructure design and remedial measures will mitigate functional disturbances (minimal scouring, erosion, sedimentation, pollution, etc.) to the watercourse."

ORE Response:

- According to D.G. Biddle and Associates, the SWM Pond bottom draw outlet would be constructed according to the LID SWM Planning and Design Guide completed by CVC and TRCA (2010). The Guide suggests limiting channel velocity to 0.50 m/sec for enhanced grass swales (25 mm storm) for water quality purposes. However, this target was used as a guide to limit aquatic disturbance. The proposed channel velocity could be further reduced at the detailed design stage if required.

  The goal of the design is to have all of the pond outflows released over a 24 hour period after each storm event and discharged to Little Creek, 30 m (or more) from the pond. As such, flows captured by the pond would not adversely impact the fisheries habitat. This would be an overall improvement to the creek compared to the majority of existing older subdivision areas that drain sediment laden runoff directly to this highly sensitive coldwater fishery.

- The location of the outlet is to be situated such that it takes advantage of the best location in the creek channel's meander belt. The outlet will be oriented such that it conveys flows into the straightest part of the channel, to ensure the flows do not erode/degrade the embankment on the opposite side of the channel. A series of rock checks are to be incorporated into the design to introduce the flows at a slower entrance velocity than that of Little Creek to further ensure there is no erosion where the two (2) features coalesce.

- Provided, the flows are released over a 24 hour period, the change in temperature between Little Creek and the outflow water would not be significantly different as the pond would not retain the runoff for long periods, exposing it to the elements.

- A DFO permit will be sought at the detailed design stage. ORE staff do not anticipate any significant obstacles with respect to obtaining the permit. A fisheries assessment would be completed as part of the application process.

2.10 Under Fish Habitat Features & Functions ORCA in Section 2 c:

"*c) Details of the SWM pond outlet design is required to satisfy Otonabee Conservation policy 8.1(9). Please include natural channel design principles to the outlet channel and an ecological opinion/written response (sign off) from ORE, in collaboration with D.G. Biddle &*

Associates/other consultants, that confirms infrastructure design and remedial measures will mitigate functional disturbances (minimal scouring, erosion, sedimentation, pollution, etc.) to the watercourse."

ORE Response:

According to D.G. Biddle and Associates the outfall will be implemented with the following specifications:

- The SWMP design and outflow channel have been discussed above. The combination of slow release and bottom draw should mitigate impacts to fisheries, etc., while maintaining a better quality of discharge compared to other outlets that discharge to Little Creek.

- It is ORE staff's opinion that D.G. Biddle will include whatever measures are necessary in the outflow design to ensure the discharge will not impact the form or function of Little Creek, other than across the less than 1 m wide cross section where Little Creek and the outlet intersect. All permanent erosion-sedimentation controls would be applied to this feature to ensure it is in its most stable form in the post construction era.

- A detailed fisheries assessment would be completed at the detailed design stage to determine the fisheries use and habitat directly at the outlet, upstream and downstream environments. We expect that the assessment will be completed this upcoming spring season during the peak flow period.

2.11 Under Habitat of Endangered and Threatened Species and/or Significant Wildlife, including Significant Woodlands in Section 3 a):

"*PPS policies 2.1.5 b) and d) permit new development and site alteration within significant woodlands and significant wildlife habitat provided functional loss is mitigated.*

Technical staff note that municipal official plan policies in Sections 6.7 and the OMB decision associated with the property suggest feature/NHS avoidance."

ORE Response:

- All of the development has been relocated outside the Significant Woodland and SWH areas. There are some encroachments within the woodland's 30 m VPA/setback, however, these will be offset by the tree/woodland compensatory planting measures proposed in the planting areas identified on Figure 6r.

- The newly treed/wooded areas are to be situated such that it increases the overall width of the significant woodland tract/SWH and/or increases the vegetation swath proximal to wetland/watercourse areas, thereby, improving buffering capacity conditions directly upgradient of the hydrologic features. The hydrologic features within the significant woodland areas are what comprise the majority of the wooded areas and SWH on the subject site. Any improvements to protect/buffer the wooded swamp areas would be considered a overall net benefit to the existing on-site conditions.

2.12 Under Technical staff recommend the following to demonstrate consistency with PPS policies in Section 3 b):

"b) If the Planning Authority approves encroachment into the 'significant woodland/wildlife habitat', technical staff are of the opinion that compensation plantings and timing windows for tree removal are appropriate mitigation strategies to offset impacts from the removal of non-wetland significant woodland and associated habitat features on site. Technical staff recommend the following recommendations be applied to the design and implementation of the approved compensation/planting plan as a condition of approval:

- *Compensation ratios are based on tree densities to establish no net loss of function.*
- *Includes species-specific habitat compensation features for local SWH/SAR species.*
- *Tree removal timing window is broad-based, e.g., April 1st to October 31st, to protect breeding birds and endangered bat roosts.*
- *Complies with the Endangered Species Act prior to commencement of work.*"

ORE Response:

- ORE staff and the proponent will determine the compensatory tree densities to by planted on-site in conjunction with the Township and ORCA as part of the compensation measures to mitigate the imposition of some development elements within the 30 m VPA/setback of the significant woodland, as identified on

Figure 6r. The planting of the tree/shrub stock in these areas will ensure a net benefit to the woodland is achieved, thus retaining/increasing the overall function of the significant woodland.

- The planting areas will receive plantings that will benefit the SWH and SAR species identified in the vicinity of the subject property.

- The proponent will abide by the April 1st to October 31st non vegetation removal window as specified by ORCA.

- As a means of ensuring the site complies with the Endangered Species Act prior to commencement of any work, ORE staff shall conduct two (2) site inspections in the spring period of 2024, prior to any vegetation removal on the subject site. If a SAR is observed/detected, it shall be reported to the Township. If any ESA requirements are necessary (due to either a Threatened or Endangered species), a Species at Risk Biologist with the Ministry of Environment, Conservation and Parks (MECP) will be contacted via the SAR Ontario email portal and any MECP requirements will be forwarded to the Township to keep them apprised of any consultations with MECP (if necessary).

3.0 Closure

Figures 5r and 6r are included at the end of this response, which identify/confirm the boundary of all Natural Heritage Features on the subject property.

Figure 6r demonstrates the development will maintain a 30 m or greater distance from all hydrologic features identified on-site, with the exception of the road access area extending Turner Street onto the subject lands. Encroachment into the 30 m VPA in this location is unavoidable. Any upgrades to Turner Street would be completed as per ORCA's regulation and the requirement of a specific study that attempts to limit impacts to the wetland/seeps and coldwater tributary in this location.

In regards to the Significant Woodland, the latest revisions to the plan prevent the development from entering the woodland, thereby retaining all of this Natural Heritage Feature. The lots that were imposing on the Significant Woodland in the previous development plan (Lot 54, Lot 55, five of the Blocks directly north of lots 54 and 55) have been removed. A small SWMP is proposed to occur in this area, however, it is to be located outside the boundary of the Significant Woodland and the 30 m VPA associated with wetland located towards the base of the slope. A slope stability study completed by GHD suggests the pond would be stable in this proposed location. The pond area is included in the areas to be planted and ORE staff will forward a planting plan that sees this area naturalized as per the TRCA SWM pond planting guide (similar to the north SWM Pond).

It is understood that a revised Draft Plan/Conceptual Servicing Plan of the Subdivision prepared by D.G. Biddle and Associates will be submitted to the Township and ORCA with their response.

ORE staff and D.G. Biddle and Associates have thoroughly discussed the Draft Plan and Conceptual Servicing Plan, and any impositions into the 30 m VPZ of the KNHFs will be mitigated via the naturalization of the VPAs. Considering the development encroachments are only within the 30 m VPA and not within the KNHFs themselves, this Draft Plan and Conceptual Servicing Plan meets the OMB Decision. Furthermore, the planting areas and planting requirements will meet the Township's requirements outlined in their Official Plan.

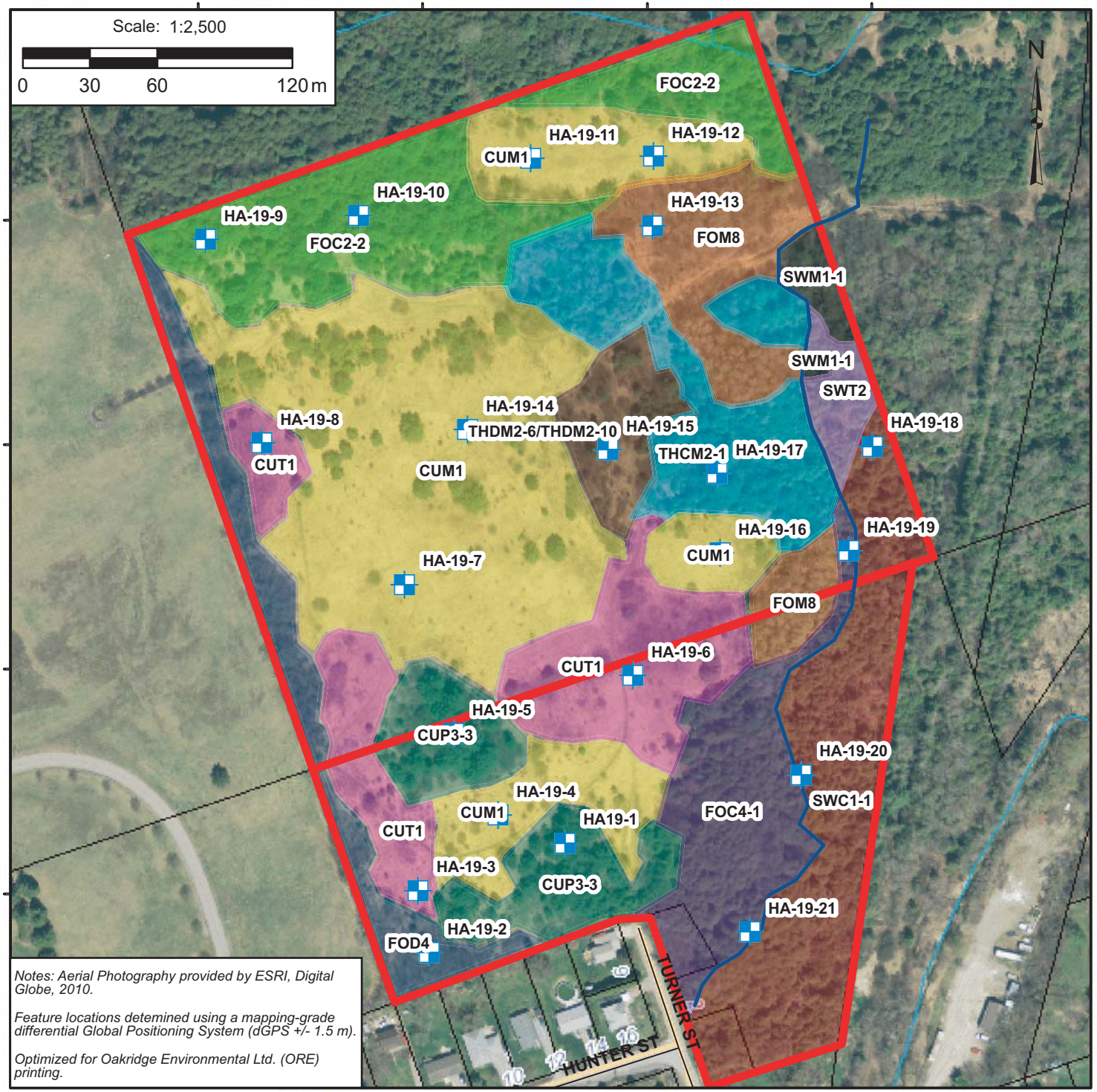
It is our opinion that the revised version of the proposed Conceptual Serving Plan with lot arrangement is consistent with both the Township's OP and PPS requirements with respect to the development remaining outside the KNHFs. We appreciate ORCA's comments and trust that our responses and revisions will allow the proponent to move the application forward to the detailed design phase.

Should you have any questions, feel free to contact the undersigned.

Sincerely,
Oakridge Environmental Ltd.

Rob West, HBSc., CSEB
Senior Ecologist
cc: file

Attachments



Notes: Aerial Photography provided by ESRI, Digital Globe, 2010.

Feature locations detemined using a mapping-grade differential Global Positioning System (dGPS +/- 1.5 m).

Optimized for Oakridge Environmental Ltd. (ORE) printing.

North American Datum 1983 - UTM Zone 17

Natural Heritage Evaluation (NHE)
Proposed Turner Street Extension
Residential Development (Veltri)
Part Lot 11, Concession 5 (Cavan)
Township of Cavan Monaghan
County of Peterborough

LEGEND

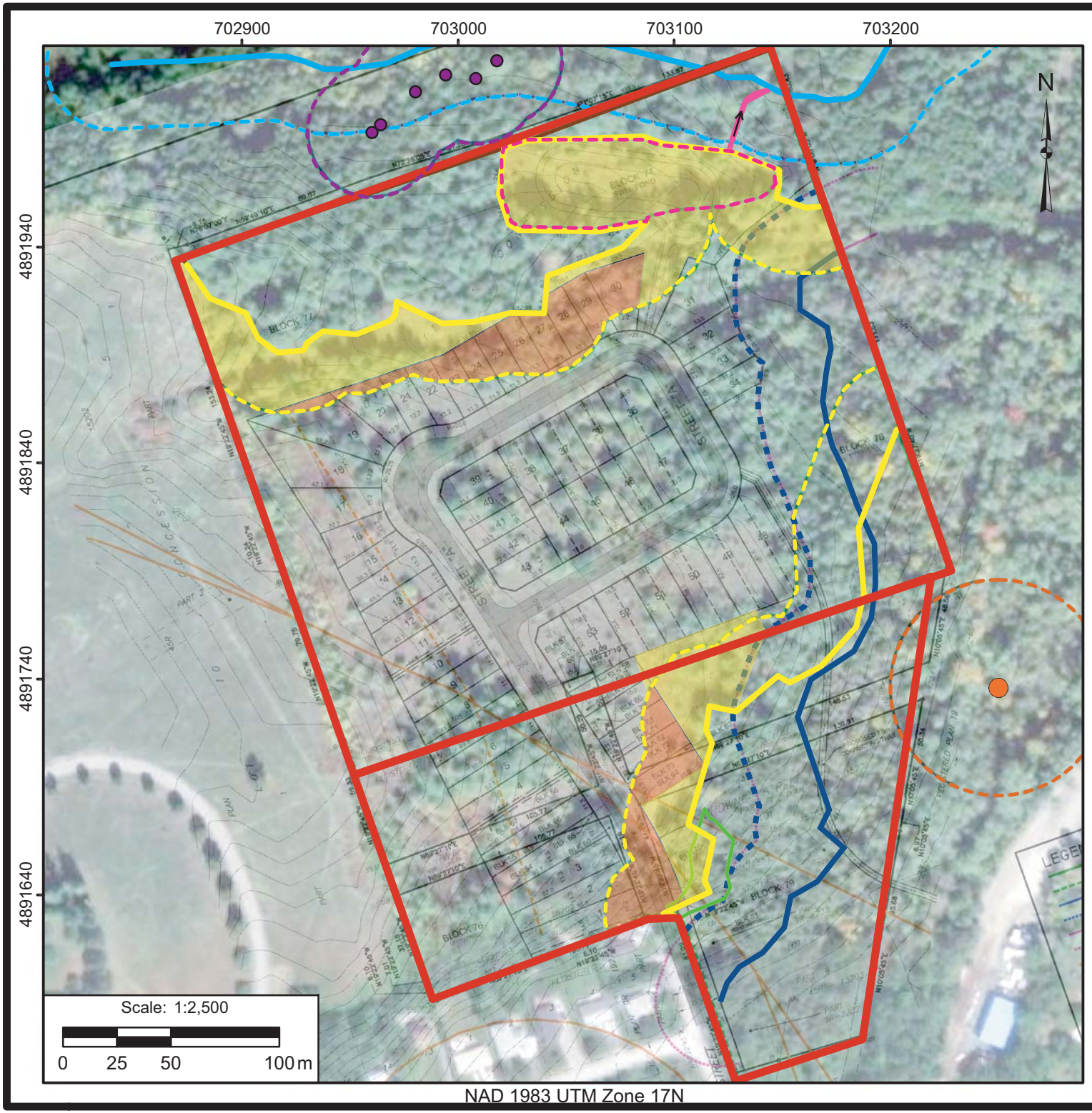
- Approximate Site Boundary
- Mineral Cultural Meadow (CUM1)
- Scotch Pine Coniferous Plantation (CUP3-3)
- Mineral Cultural Thicket (CUT1)
- Dry - Fresh White Cedar Coniferous Forest (FOC2-2)
- Fresh - Moist White Cedar Coniferous Forest (FOC4-1)
- Dry - Fresh Deciduous Forest (FOD4)
- Fresh - Moist Poplar - White Birch Mixed Forest (FOM8)
- Fresh - Moist White Cedar Coniferous Thicket (THCM2-1)
- Buckthorn Deciduous Shrub Thicket (THDM2-6)/Apple Deciduous Shrub Thicket (THDM2-10)
- White Cedar Coniferous Mineral Swamp
- White Cedar - Hardwood Mineral Mixed Swamp (SWM1-1)
- Mineral Thicket Swamp (SWT2)
- Ephemeral Discharge Boundary
- Watercourse
- Road
- Lot Fabric
- Hand Auger Location

TITLE

Vegetation Plan

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT #	FIGURE NO.
15-2013	**5r**
DATE	
November 2023	



Natural Heritage Evaluation (NHE)
Proposed Turner Street Extension
Residential Development (Veltri)
Part Lot 11, Concession 5 (Cavan)
Township of Cavan Monaghan
County of Peterborough

- Approximate Property Boundary
- Proposed Planting Area
- Limit of Woodland Encroachment
- Significant Woodland Boundary
- Significant Woodland Setback (30 m)
- Watercourse
- Watercourse Setback (30 m)
- Ephemeral Discharge Boundary
- Ephemeral Discharge Setback (30 m)
- Seep
- Seep Setback (30 m)
- Butternut Location
- Butternut Setback (50 m)
- Hillside Depression (ORE)
- Approximate Stormwater Management Pond Envelope
- Storm Water Management Pond Outflow

Notes: Aerial Photography provided by ESRI, Digital Globe, 2022.

Lot Layout from Preliminary Draft Plan (ACAD) prepared by D.G. Biddle and Associates Ltd. (September 25, 2023).

Feature locations detemined using a mapping-grade differential Global Positioning System (dGPS +/- 1.5 m).

Optimized for Oakridge Environmental Ltd. (ORE) printing.

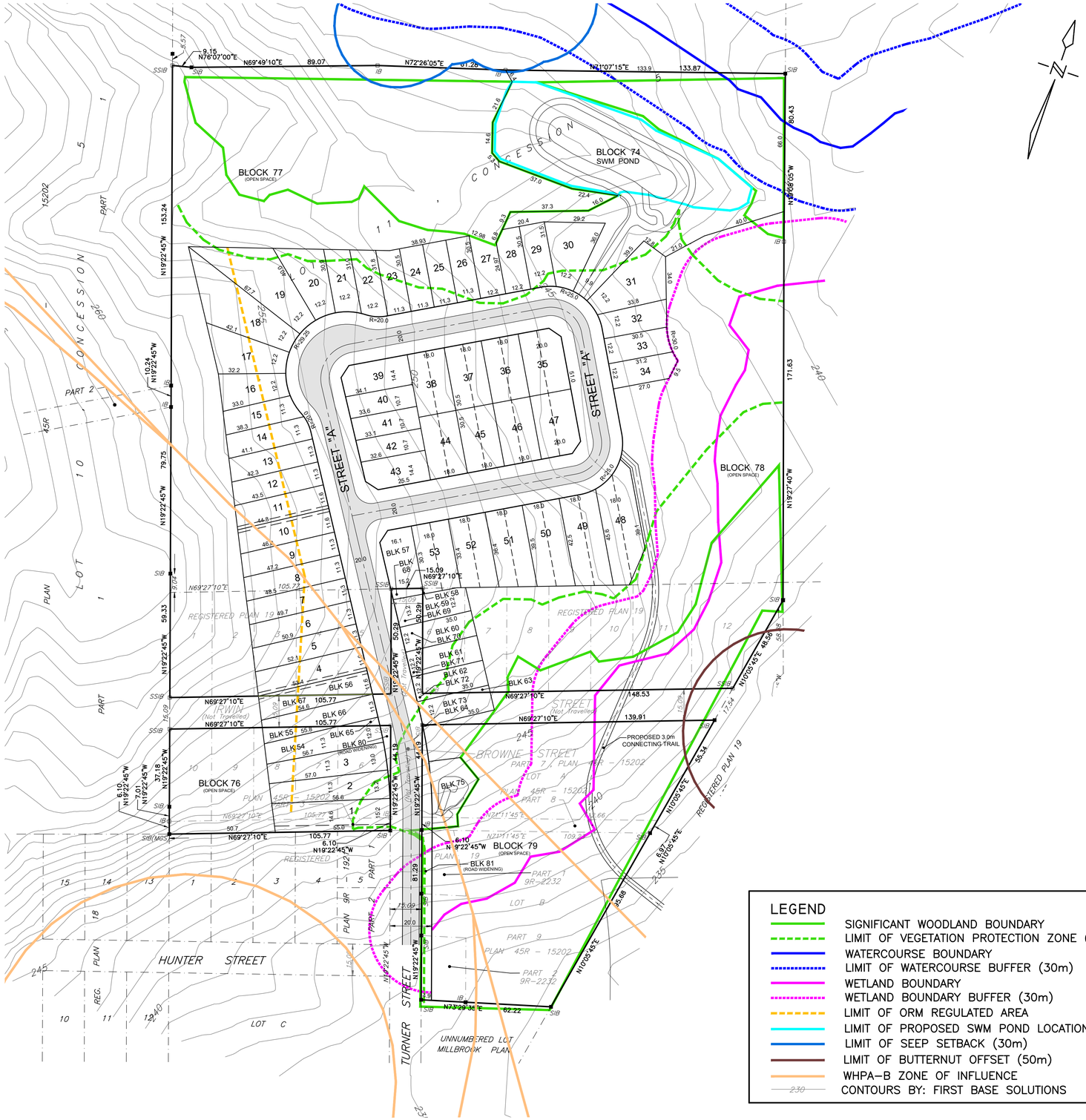
TITLE

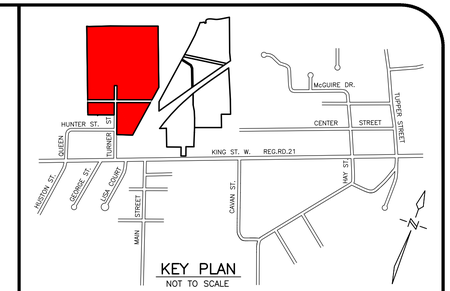
Constraints Plan

ORE Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

PROJECT #	FIGURE NO.
15-2013	**6r**
DATE	
November 2023	

Appendix A





LAND USE SCHEDULE

PROPOSED USE	LOT/BLK #	# OF LOTS/BLKS	# OF UNITS	AREA (ha)
RESIDENTIAL				
LOW DENSITY RESIDENTIAL				
SINGLE DETACHED (10.7m)	LOTS 40–42	3	3	0.103
SINGLE DETACHED (11.3m)	LOTS 2–15, 26–29 39, 43 BLKS 54–56	23	23	1.091
SINGLE DETACHED (12.2m)	1, 16–25, 30–34 BLKS 57–64	24	22	1.056
SEMI DETACHED (18.0m)	35–38, 44–53	14	28	0.881
TOTAL		64	76	3.131
NON RESIDENTIAL				
STORMWATER MANAGEMENT	BLOCK 74, 75	2		1.063
OPEN SPACE	BLOCKS 76–79	4		5.291
ROAD WIDENING	BLOCKS 80, 81	2		0.065
20.0m ROAD ALLOWANCE.				0.961
TOTAL		72	76	10.511
TOWNSHIP OF CAVAN MONAGHAN (IRWIN STREET R.O.W.)				
LOW DENSITY RESIDENTIAL				
SINGLE DETACHED (11.3m)	BLOCKS 65–67	3		0.084
SINGLE DETACHED (12.2m)	BLOCKS 68–73	6		0.091
TOTAL		9		0.175
TOTALS		80	76	10.686

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

E NORTH – ENVIRONMENTAL PROTECTION
SOUTH – RESIDENTIAL
EAST – ENVIRONMENTAL PROTECTION
WEST – INSTITUTIONAL
H – PIPED MUNICIPAL WATER
I – TILL
K – ALL MUNICIPAL SERVICES AVAILABLE

OWNER'S AUTHORIZATION

I/WE THE VELTRI GROUP
BEING THE REGISTERED OWNER OF THE SUBJECT LANDS HEREBY AUTHORIZE
D.G.BIDDLE AND ASSOC. LTD.
TO PREPARE AND SUBMIT A DRAFT PLAN OF SUBDIVISION FOR APPROVAL

SIGNED _____
TITLE

DATE _____

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARY OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN
IVAN B. WALLACE
ONTARIO LAND SURVEYORS

SIGNED _____
O.L.S

DATE _____

No.	REVISION	DATE	BY	APPROVED

REVISIONS

LEGEND

- SIGNIFICANT WOODLAND BOUNDARY
- LIMIT OF VEGETATION PROTECTION ZONE (30m)
- WATERCOURSE BOUNDARY
- LIMIT OF WATERCOURSE BUFFER (30m)
- WETLAND BOUNDARY
- WETLAND BOUNDARY BUFFER (30m)
- LIMIT OF ORM REGULATED AREA
- LIMIT OF PROPOSED SWM POND LOCATION
- LIMIT OF SEEP SETBACK (30m)
- LIMIT OF BUTTERNUT OFFSET (50m)
- WHPA–B ZONE OF INFLUENCE
- 230 CONTOURS BY: FIRST BASE SOLUTIONS

PRELIMINARY

DRAFT PLAN

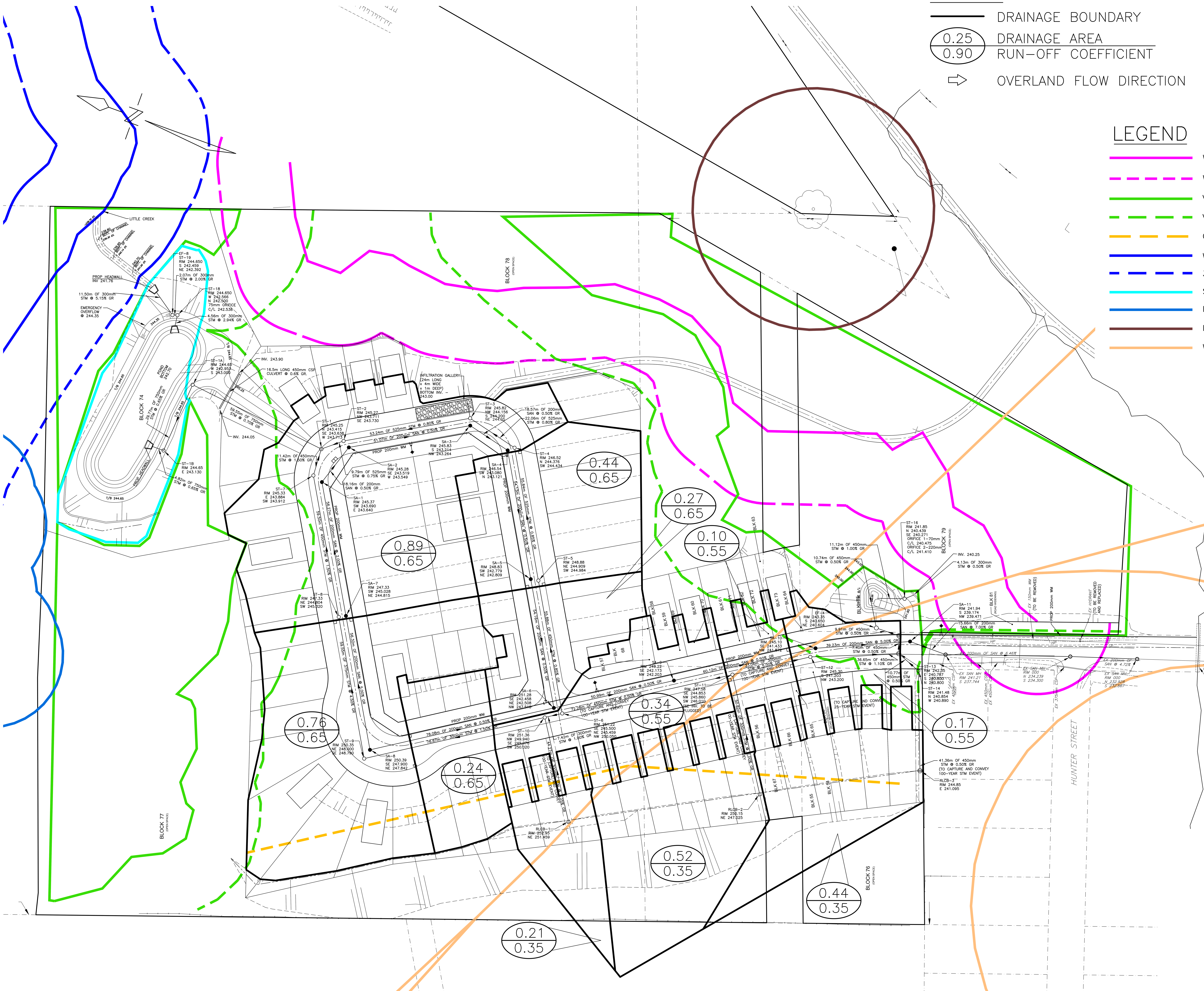
PART OF LOT 11, CONCESSION 5
Former Village of Millbrook, Township of Cavan
Now In The
TOWNSHIP OF CAVAN MONAGHAN
COUNTY OF PETERBOROUGH

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA,ON L1H 1B6
PHONE (905)576-8500 • FAX (905)576-9730
info@dgbiddle.com

SCALE: 1:1000	115040
DRAWN BY: B.B.	DP-1
DESIGN BY: M.F.	
CHECKED BY: M.F.	
PLOT DATE: 25/09/2023	

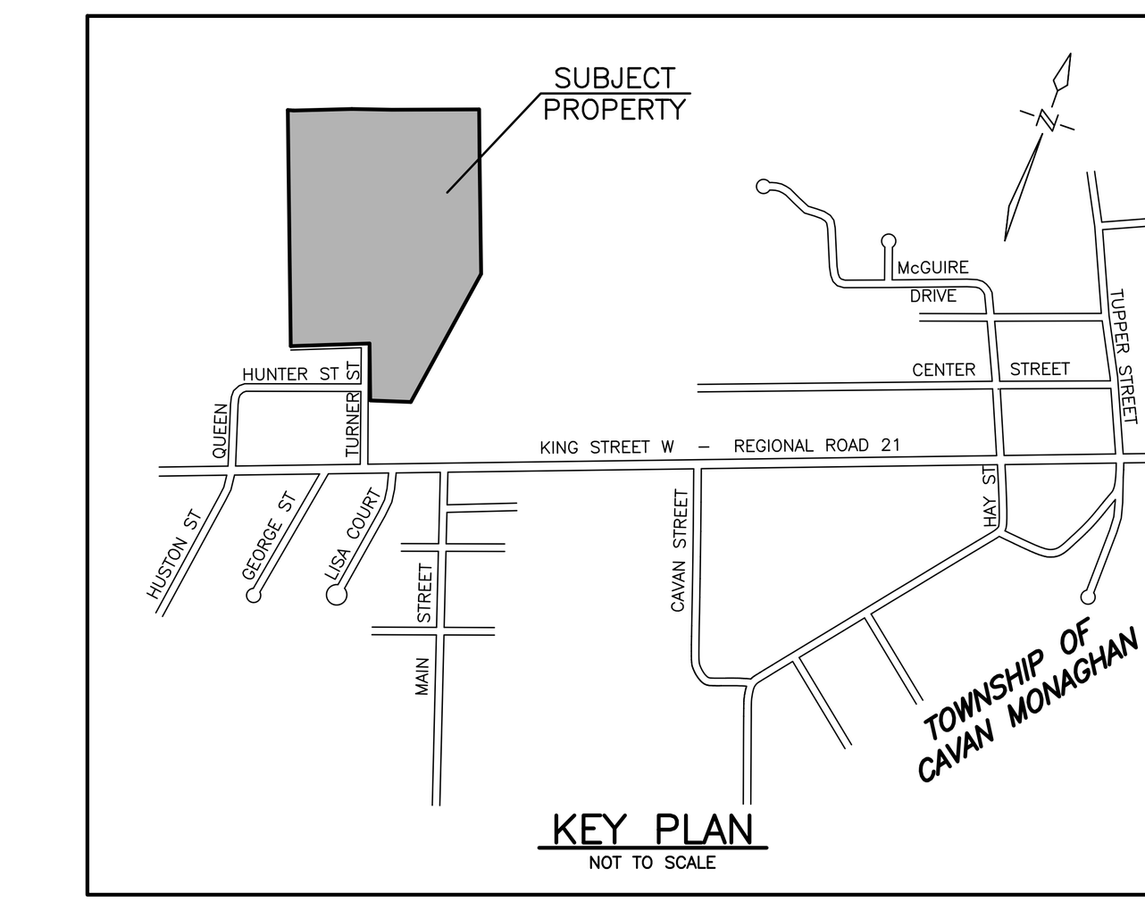
X:\STAFF\JOB FILES\115000\115040 VELTRI TURNER STREET\115040 DRAWINGS CIVIL\115040 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\115040-2D-DRAFT PLAN-PRELIM-13.DWG

Appendix B



LEGEND

(line)	DRAINAGE BOUNDARY
0.25	DRAINAGE AREA
0.90	RUN–OFF COEFFICIENT
(arrow)	OVERLAND FLOW DIRECTION



LEGEND

- WETLAND DISCHARGE
- WETLAND DISCHARGE – 30m SETBACK
- VEGETATION PROTECTION ZONE
- VEGETATION PROTECTION ZONE – 30m OFFSET
- ORM REGULATED LANDS
- WATERCOURSE
- 30m WATERCOURSE OFFSET
- SWM POND BOUNDARY
- LIMIT OF SEEP SETBACK (30m)
- LIMIT OF BUTTERNUT OFFSET (50m)
- WHPA–B ZONE OF INFLUENCE

NO.	DATE	REVISION	BY
3	2023/05/01	REVISED AS PER 3RD SUBMISSION COMMENTS	D.M.
2	2021/08/27	REVISED AS PER 2ND SUBMISSION COMMENTS	D.M.
1	2021/05/04	REVISED AS PER 1ST SUBMISSION COMMENTS	D.M.

REVISIONS

VELTRI & SONS – TURNER STREET, CAVAN MONAGHAN

CONCEPTUAL SERVICING PLAN

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA,ON L1H 1B6
PHONE (905)576–8500 • FAX (905)576–9730
info@dgbiddle.com

SCALE:	1:500	PROJECT NO. 115040
DRAWN BY:	L.M.L.	DRAWING NO. CSP–1
DESIGN BY:	M.B.C.	
CHECKED BY:	M.B.C.	
DATE:	DECEMBER 2018	

X:\STAFF\JOB FILES\115000\115040 VELTRI TURNER STREET\115040 DRAWINGS CIVIL\115040 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\115040 CONCEPTUAL ENGI...
27/07/2023