



October 31, 2018

OEC 17-062

City of Barrie
P.O. Box 400
Barrie, ON L4M 4T5

Attention: Carlissa McLaren
Senior Planner, Planning and Building Services Department

**Re: Scoped Environmental Impact Study
Previn Court – Ferndale Drive Development
City of Barrie**

Dear Ms. McLaren:

Orion Environmental was retained to undertake a Scoped Environmental Impact Study (EIS) in support of a proposed Official Plan Amendment (OPA), Zoning Bylaw Amendment (ZBA) and Draft Plan of Subdivision Applications and to address the existing and potential natural heritage features in and adjacent to the area where the stormwater management facility is being proposed. Orion has retained the services of Birks Natural Heritage Consultants to provide the Ecological Land Classification assessment and Species at Risk components of this study.

It is my understanding the EIS is required for the proposed OPA and ZBA applications which aim to re-designate and rezone a portion of the lands from Environmental Protection to Open Space. This EIS will address the potential natural heritage impacts based on the current site conditions, the potential impacts to the Environmental Protection lands subject to the applications to facilitate construction of the storm water management pond (SWMP) in Block 3 per the attached Draft Plan of Subdivision, prepared by Innovative Planning Solutions and the specific issues raised by LSRCA during a site visit in October 2017.

Consultation with the Lake Simcoe Region Conservation Authority (LSRCA) confirmed that the SWMP will be outside of the identified floodplain area, but

still within the area governed by Ontario Regulation 179/06 under the Conservation Authorities Act. Any site alteration or development within the regulated area will require a permit from the LSRCA and will be required to be in accordance with their guidelines.

On November 5th, 2017 LSRCA requested a scoped EIS be undertaken to evaluate the existing and potential natural heritage features in and adjacent to the area where the stormwater management facility is being proposed addressing the following:

1. Complete ELC for the area as per Lee et al. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Applications. SCSS Field Guide FG-02.
2. Screen for species at risk listed under the *Endangered Species Act* (2007) and assess existing or potential habitat (contact the local MNRF district office for the most recent records in the area and for further direction on habitat screening and assessment).
3. Complete a general aquatic habitat assessment for Dymont's Creek and determine an appropriate vegetation protection zone (VPZ) to mitigate potential impacts. Please note that this reach of Dymont's Creek is considered a cold-water system, which would typically be afforded a 30 m VPZ.
4. Map the proposed development (SWM facility) and limit of disturbance on a current, high quality orthoimage.
5. Provide an assessment of the potential impacts of the proposed development on the natural heritage features and related ecological and hydrological functions. If the SWM Facility will be discharging into Dymont's Creek, please demonstrate that pre- to post-development hydrologic conditions supporting the creek (quantity and quality) will be maintained.
6. Develop and provide an appropriate avoidance, mitigation, restoration and/or offsetting strategy to address any known or potential impacts that would result from the proposed development. The loss of woodland and/or wetland features maybe subject to LSRCA's Ecological Offsetting Plan.
7. Demonstrate conformity with all applicable legislation and policies.

The following sections address the above scope of work.

INTRODUCTION

The subject property is located in Part of Lot 23, Concession 7 on the west side of Ferndale Drive opposite the City of Barrie Public Works Yard located at 165 Ferndale Drive. The lands were approved for development through the Ontario Municipal Board in 1999 and recently granted Draft Plan Approval by the Board on September 3, 2015 and was recently granted a one-year extension to the Draft Plan Approval status to September 3, 2019. Since these approvals, trees were removed from the site under a tree clearing permit by the City of Barrie and organic soils on the south half of the site were removed and the site was filled under a permit issued by the LSRCA. A temporary storm water pond was constructed in the south west corner to retain storm water runoff during the excavation and filling operations.

The initial environmental approvals for the development were issued by LSRCA and the Department of Fisheries and Oceans (DFO) circa 2000 which established the vegetation protection corridor for Dymont's Creek corridor north and south of Sproule Drive. A 50m corridor was approved and designated Environmental Protection that was centred along Dymont's Creek. As part of the approvals the watercourse function was enhanced with the construction of a naturalized channel approved by DFO. Downstream of the site Dymont's Creek is highly urbanized and culverted as it goes through the City of Barrie to the Kempenfelt Bay. Recently DFO approved the culverting of tributaries to Dymont's Creek for the widening of Ferndale Drive downstream of the site.

EXISTING CONDITIONS

On-Site Land Use

The site is approximately 7.97ha (19.7 acres) in size. Approximately 6.9ha is land cleared as part of the approved operations to remove the tree cover and organics and place fill on the site for the future development. Two small areas of tree cover still remain totaling approximately 0.54ha, comprised of 0.17ha at the storm water management location and 0.37 ha of treed edge adjacent to the Open Space lands to the west of the site. Figure 1 shows the features on site.

The lands are approved and zoned for residential and commercial development with the extension of Sproule Drive to Ferndale Drive defined within the development plan. On August 15, 2018 the Local Planning Appeal Tribunal (formerly the Ontario Municipal Board) approved one-year extension to satisfy draft plan conditions associated with the existing approvals. Attached is the approved development footprint and associated land use designations from that decision.

Adjacent Land Use

East of the site adjacent to Ferndale Drive is the City of Barrie Public Works Yard. North of the site is existing residential development. To the west is the Environmental Protection (EP) and Open Space (OS) associated with Dymont's Creek and further to the west of Dymont's Creek is residential development. South of the site is existing commercial/development (Simcoe Building Centre).

Natural Heritage Features

The natural heritage features on the site are limited to a 0.37 ha strip of trees in the north west corner of the site adjacent to the lands off-site zoned Open Space and Residential and a 0.17ha treed wetland in the location of the proposed placement of the SWMP adjacent to Dymont's Creek.

A temporary storm water pond was dug in the south west corner of the site to manage storm water runoff during the organic's removal and fill placement.

Vegetation

Mr. Brad Baker, a senior ecologist with Birks Natural Heritage Consultants, undertook an assessment of the vegetation to define the Ecological Land Classification (ELC) units. Where the storm water management facility is being proposed is a 0.17ha treed area that is a Fresh Moist White Cedar Balsam Fir Coniferous Forest (FOCM4.3). This forest cover extends north and west along the Dymont's Creek corridor. The tree species present are predominately Balsam Fir and Eastern White Cedar on organic soils. The ELC units for the site are shown on Figure 1.

The tree community in the adjacent Open Space/Environmentally Protected lands is Fresh Moist White Cedar Balsam Fir Coniferous Forest and Dry Fresh Sugar Maple White Birch Poplar Deciduous Forest (FODM5-10). This area is outside the development limits and will be retained in its current condition post

development. Approximately 0.37 ha of the aforementioned ELC units extend into the approved development footprint and will be removed.

None of the vegetation species or ELC units present are of conservation concern and all are common throughout the region. The findings of Birk Natural Heritage are consistent with the Tree Removal and Preservation Plan prepared by Don Naylor & Associates Ltd., August 2018.

Aquatic Habitat

Dymont's Creek is a cold-water system that flows through the City of Barrie to Kempenfelt Bay through a combination of urbanized/piped and natural channel conveyance. The headwater area that sustains the watercourse and contributes ground water discharge is from the remnant glacial beach ridge within the Barrie landfill site and the adjacent urbanized lands east of Ferndale Drive.

The original approval for the development of the lands had a condition of approval for the adjacent Edgehill Development under the DFO authorization that required the creek to be placed within a naturalized channel design. The original watercourse meandered within the wetland and would change course during major rain events if debris restricted flow. The channel was established to avoid a potential impact on the adjacent residential development to the west. The naturalized channel involved excavation of a meandering channel and the placement of rock on the banks and within the watercourse to enhance habitat conditions and prevent the meandering of the channel beyond the defined corridor.

The approvals and associated rezoning resulted in the creek having over a 50m vegetation protection zone from Sproule Drive north. South of Sproule Drive the watercourse was placed in a 50m wide corridor that extends west between the existing industrial and residential development. This corridor width was approved by DFO and LSRCA at the time of the original approvals, and the corridor will be maintained with the proposed development plan.

The only aquatic habitat on site is the temporary storm water pond that was constructed in the south west corner of the site during the excavation of the organics to control potential sediment discharge to the site during the filling

operations. Like any storm water pond, it is expected to be used by wildlife or become populated with amphibians or aquatic species. Given this temporary structure will be replaced by a permanent pond the associated wildlife use is expected to be re-established post construction, thereby maintaining any ecological functions currently provided by the temporary storm water pond. Discharge from the proposed storm water pond will be limited to pre-development flows and the pond will be designed to meet Ministry of Environment, Conservation and Parks water quality standards for discharge to cold-water systems.

The Barrie Creeks, Lovers Creek and Hewitt's Creek Subwatershed Plan (2012) states the Dymont's Creek watershed is 6.242 km² or 624.2 ha. The site is 7.97ha representing 1.3% of the contributing watershed. The upgradient contributing water shed is comprised predominately of residential development and the City of Barrie landfill, with a small area of forested valley land. The landfill site captures ground water through the leachate collection system which is conveyed to the sewage treatment plant. Dymont's Creek flows adjacent to the site for approximately 340m of its 11.296km length, representing 0.3% of its contributing watercourses. The distance the creek is located from the development limit ranges from 60 – 80 m. The direction of ground water flow is south following the site topography toward the existing industrial development. Based on this information it is reasonable to conclude the site does not provide a significant contribution to Dymont's Creek and ground water from infiltration within the site is inconsequential compared to the size of the contributing watershed. This hydrogeological issue was raised and resolved to the satisfaction of LSRCA when the approval was given to fill the site for development. However, to help maintain any potential ground water contribution to the creek Low Impact Development measures will be constructed with the development to provide a post development water balance that reflects the pre-development condition.

Species At Risk

Development applications require proponents to follow the *Endangered Species Act*, 2007 (ESA). The ESA requires the proponent to identify Species at Risk (SAR) based on the best available scientific information to protect the species at risk and their habitats. The *Endangered Species Act* Submission Standards for Activity Review and 17(2)(c) Overall Benefits Permits, February 2012 requires

the proponent to consult with the Ministry of Natural Resources and Forestry (MNRF) to obtain local knowledge on the SAR present in the area and then undertake an assessment to determine if the species are on the site or if there is potential habitat. If SAR species or potential habitat that could be adversely impacted is present on the site the MNRF preliminary screening process requires the completion of an Information Gathering Form that is submitted to MNRF for their review and assessment to determine what steps are required for protection of the species. In compliance with the screening process Birks Natural Heritage Consultants reviewed the most current SAR list provided by the MNRF for the County of Simcoe/City of Barrie and selected those species that could potentially be present within the City of Barrie based on habitat present and past records in the MNRF Natural Heritage Information Centre data base. Given the site is void of any structures and has already been cleared, filled and undergone excavation of the temporary storm water pond the only natural heritage lands with SAR potential are limited to the Dymont's Creek corridor. The Dymont's Creek corridor is protected as Environmental Protection (EP) or Open Space (OP) with the EP lands within the subject lands being excluded from the existing approved development limit. Birks Natural Heritage Consultants assessed the land for potential SAR habitat and did not identify any SAR species present, nor did they identify potential SAR habitat within the proposed development footprint that would be adversely impacted. The results of their assessment are shown in Table 1. Confirmation of no SAR concerns by a qualified ecologist has completed the proponent's due diligence requirements under the ESA screening process. In accordance with the Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefits Permits guideline no further consultation with MRNF is required on this matter.

PROPOSED DEVELOPMENT

The lands are to be developed for residential and commercial land use with open space land use adjacent to the Dymont's Creek corridor. The proposed land use is shown on the attached Draft Plan of Subdivision prepared by Innovative Planning Solutions. The lands are currently zoned for residential, commercial, park and stormwater management. The only significant change in the extent of the original development footprint is the expansion of the stormwater pond block west to encompass the two residential lots south of Sproule Drive approved with the Edgehill Subdivision and the conversion of 0.17ha of forested wetland previously zoned Open Space into the stormwater management block. It is our understanding these lands are currently owned by the City; however, Council has

approved a motion agreeing to declare the lands surplus and to sell the lands to the proponent so they can be incorporated into the proposed development.

The FSR prepared by Pearson Engineering Inc. has confirmed the release from the storm water pond will be below pre-development flows which will avoid any potential adverse impact on the creek due to increased flows due to urbanization of the site. A water balance was completed by Pearson Engineering that predicted an annual recharge volume of 23,558 m³. The increase in imperviousness of the site due to development will result in a recharge deficit of 18,221m³. The storm water management system will utilize Low Impact Development measures such as rooftop runoff infiltration and bioretention trenches to promote infiltration to make up the predicted recharge deficit. These infiltration measures will be designed to optimize the water balance for the site. A treatment train approach is proposed to manage phosphorus discharge with runoff treatment in a storm water management pond and rooftop runoff conveyed to underground storage chambers for infiltration. The FSR provides the details on the water balance and phosphorus analysis and has been submitted under separate cover in support of the proposed applications.

IMPACT ASSESSMENT

Review of the site conditions and the assessment of the site for potential SAR has confirmed the site has no SAR species present, nor does it have potential for habitat.

The ecological functions associated with the Dymont's Creek corridor within the lands designated EP and OS will remain post development. These lands will be retained as originally approved with the exception of the use of a small portion of the lands for the SWMP. The 0.17ha of forest wetland proposed for removal have been already impacted with the clearing of the site and the adjacent industrial land. Currently the lands function primarily as an additional treed buffer to Dymont's Creek for approximately 46m of the creek, therefore removal of this limited area will not adversely impact the aquatic habitat. The adjacent corridor of Dymont's creek is already forested and physically separated from the treed area by a vegetated berm constructed to help provide flood protection to the adjacent industrial lands. Landscaping/planting plans will be prepared as part of the storm water pond design which would potentially enhance the current vegetated buffer to Dymont's Creek.

The storm water management facilities are being designed to promote infiltration to reduce runoff and manage phosphorus levels in accordance with provincial and Lake Simcoe Region Conservation Authority guidelines.

LSRCA ISSUES

Consultation with the Lake Simcoe Region Conservation Authority (LSRCA) and a site visit with their staff resulted in an LSRCA email sent on November 5, 2017 requesting that further information and evaluation of existing and potential natural heritage features specific to the proposed storm water management facility. The following is our responses to the LSRCA information requests:

- a. *Screen for species at risk listed under the Endangered Species Act (2007) and assess existing or potential habitat (contact the local MNRF district office for the most recent records in the area and for further direction on habitat screening and assessment).*

Response

As documented above, the MNRF was contacted to obtain the most recent records and a qualified ecologist completed a SAR assessment which confirmed the development will not adversely impact SAR species or potential habitat.

- b. *Complete a general aquatic habitat assessment for Dymont's Creek and determine an appropriate vegetation protection zone (VPZ) to mitigate potential impacts. Please note that this reach of Dymont's Creek is considered a cold-water system, which would typically be afforded a 30 m VPZ.*

Response

The corridor for Dymont's Creek at Sproule Drive was already approved by DFO and LSRCA when the Edgehill Subdivision was approved in circa 2000. The approved VPZ for the entire corridor was 50m in proximity to the storm water pond. Downstream of the site Dymont's Creek is highly urbanized and culverted as it goes through Barrie to the lake. Recently DFO approved the culverting of tributaries to Dymont's Creek for the widening of Ferndale Drive downstream of the site. In our opinion the existing approved 50m buffer is sufficient given the

proposed use is consistent with that proposed when the original approvals were granted.

- c. Map the proposed development (SWM facility) and limit of disturbance on a current, high quality orthoimage.*

Response

Attached is Figure 1 showing the SWM facility location and limit of disturbance

- d. Provide an assessment of the potential impacts of the proposed development on the natural heritage features and related ecological and hydrological functions. If the SWM Facility will be discharging into Dymont's Creek, please demonstrate that pre- to post-development hydrologic conditions supporting the creek (quantity and quality) will be maintained.*

Response

This analysis was done and reviewed by LSRCA to obtain the OMB approval for the development which was granted an extension by the Local Planning Appeal Tribunal (formerly OMB) on August 15, 2018. In association with Birks Natural Heritage Consultants we have provided this scoped EIS to document the potential impacts under the current site conditions.

Dymont's Creek is sustained by ground water discharge from the remnant glacial beach ridge within the Barrie landfill site and the urbanized lands to the north. The contribution to ground water from infiltration within the site is inconsequential compared to the size of the upgradient contributing watershed. This hydrogeological issue was raised and resolved to the satisfaction of LSRCA when the approval was given to fill the site for development. The Functional Servicing Report prepared by Pearson Engineering has confirmed that Low Impact Development measures will be implemented to address the deficit between the pre and post development water balance.

- e. *Develop and provide an appropriate avoidance, mitigation, restoration and/or offsetting strategy to address any known or potential impacts that would result from the proposed development. The loss of woodland and/or wetland features maybe subject to LSRCA's Ecological Offsetting Plan.*

Response

The site has been cleared and filled under the past approvals. The on-site natural heritage features are limited to the two forested areas in proximity to Dymont's Creek. No restoration measures are required within the development limits. The following mitigation measures are proposed:

- Installation of silt fence adjacent to the Dymont's Creek corridor to prevent potential sediment discharge from the site and prevent accidental movement of equipment into the area. These measures will be inspected regularly to ensure they are functioning properly.
- All tree removal will be done outside of the breeding bird window between September 1 and March 31 to ensure compliance with the Migratory Bird Convention Act. Any removal of trees during the breed bird window would be undertaken only after the trees have been assessed by a qualified ecologist for nesting activity.
- Any dewatering to Dymont's Creek would utilize an enviro bag or comparable measures to filter out sediment prior to discharge to the creek.
- Workers will be given Species at Risk awareness training for species that could move onto the site from the adjacent lands.
- In order to avoid a Section 9 (harm/kill/harass) contravention of the *ESA,2007* any future vegetation clearing be limited to the period outside the active bat season. Thus, no vegetation clearing should occur between April 1st and October 31st in any given year.

This draft plan approval predates the approval of the Ecological Offsetting Plan; therefore, the development is not subject to the policy. Review of the Plan policies have confirmed regardless compensation is not required for wetlands under 0.5ha which do not provide a significant hydrological function, ecological linkage or significant surface water connection. The forested wetland affected by the storm water pond is 0.17ha and does not provide a significant ecological function given its size and the surrounding urbanization. Dymont's Creek is not

within this forested area and the creek has been bermed to contain it within its banks and avoid the flow discharging onto the adjacent commercial land use during spring freshet or storm events, therefore the adjacent treed area affected by the storm water pond has no significant hydrological function, ecological linkage or significant surface water connection.

f. Demonstrate conformity with all applicable legislation and policies.

Response

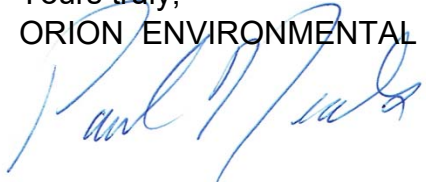
The lands have been approved, designated and zoned for development by the City of Barrie/ Ontario Municipal Board, subject to conditions. This OMB approval confirms compliance with the City of Barrie Official Plan and all applicable legislation and policies. Development of the storm water pond will require a permit from the LSRCA for the proposed works within the regulated area associated with Dymont's Creek. A SAR assessment has been completed in accordance with MNR and ESA requirements and has confirmed no SAR species will be impacted.

CONCLUSION

The lands have been approved for development for over a decade and have been cleared and filled in preparation for development. A SAR assessment was completed and no SAR species or potential habitat that would be adversely impacted by the development was identified. Low Impact Development measures will be implemented to address the potential infiltration deficit between the pre and post development condition. The natural heritage features and functions associated with the Dymont's Creek corridor will not be adversely impacted by the development. Based on the above, the proposed applications for Official Plan Amendment, Zoning Bylaw Amendment and Draft Plan of subdivision will, in our opinion have no adverse environmental impacts associated with the development.

If you have any questions or require further information, please do not hesitate to call.

Yours truly,
ORION ENVIRONMENTAL SOLUTIONS, INC.



Paul Neals, B.Sc. Agr., P.Ag.
Principal

PCN:

Attach:

Cc: Greg Barker, Innovative Planning Solutions
Brad Baker, Birks Natural Heritage Consultants



LEGEND

Ferndale Drive
Previn Court Homes

— Property Limits

..... ELC Boundaries

CUM - Cultural Meadow

FOCM4-3 - Fresh Moist
White Cedar, Balsam Fir
Coniferous Forest

FODM5-10 - Dry Fresh
Sugar Maple White Birch
Poplar Deciduous Forest

FODM8-1 - Fresh Moist
Poplar Deciduous Forest

MAMM1-3 - Reed Canary
Grass Graminoid Mineral
Meadow Marsh

ML - maintained lawn



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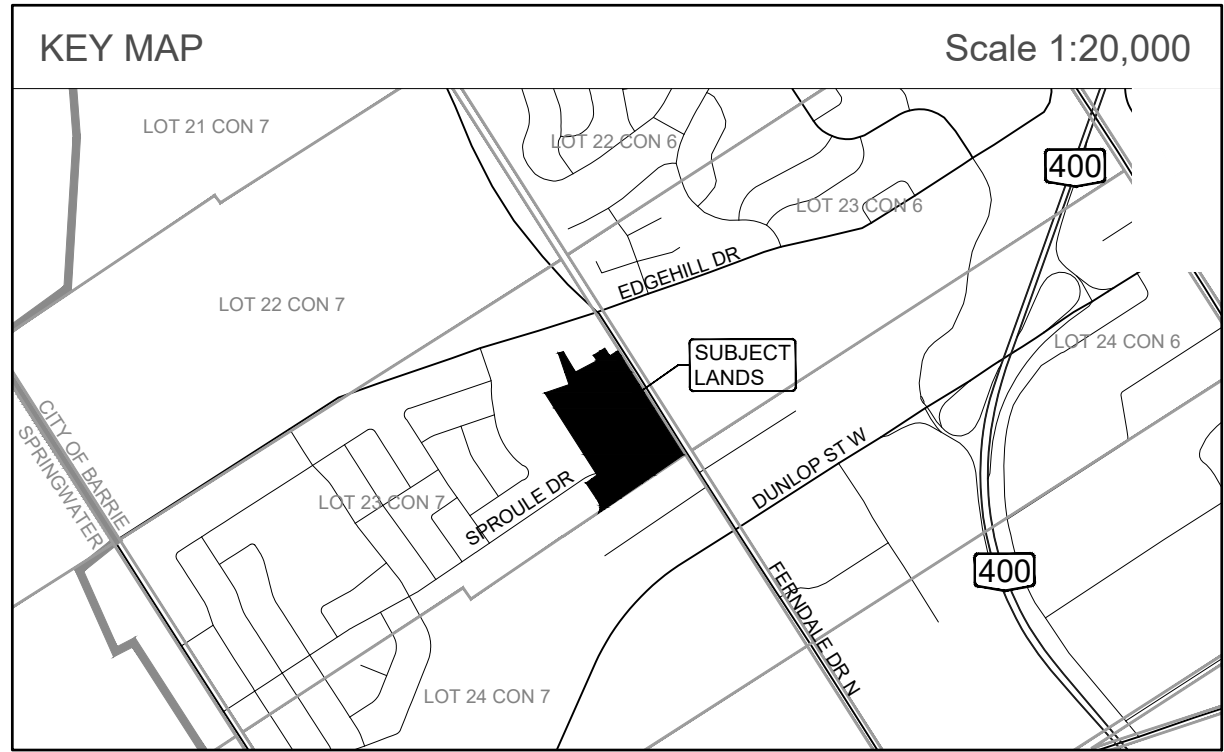
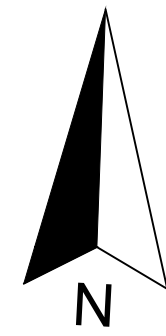
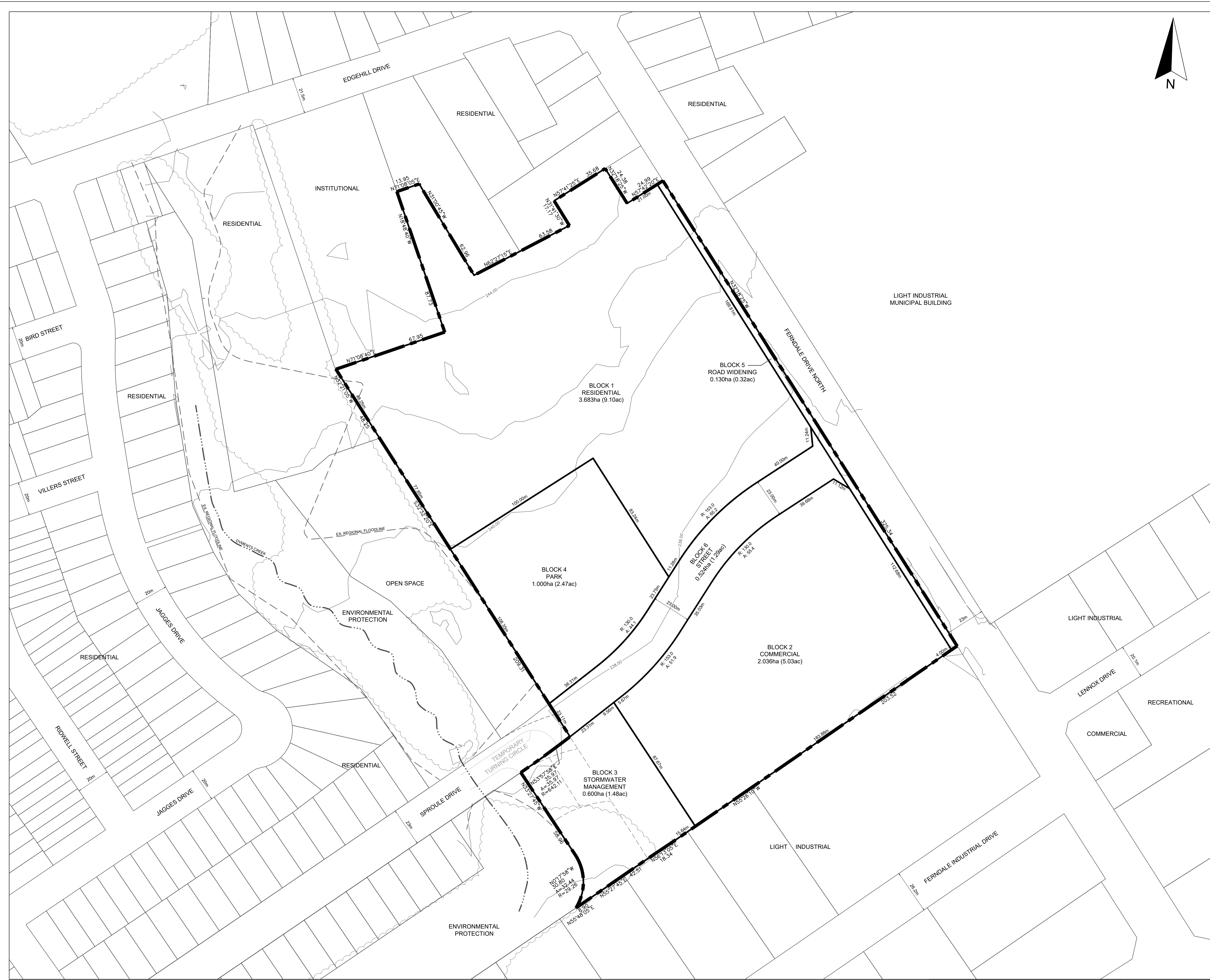
DATE ISSUED: OCT 2017

CREATED BY: PCN

PROJECT NO. - 17-062

Not To Scale

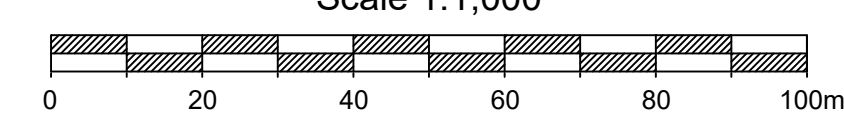
Figure 1



DRAFT PLAN OF SUBDIVISION

FERNDALE DRIVE NORTH & SPROULE DRIVE
PART OF LOT 23, CONCESSION 7
CITY OF BARRIE

Scale 1:1,000



LAND USE SCHEDULE

	BLOCKS	ha	ac	%
RESIDENTIAL	1	3.683	9.10	46.20
COMMERCIAL	2	2.036	5.03	25.53
STORMWATER MANAGEMENT	3	0.600	1.48	7.53
PARK	4	1.000	2.47	12.54
ROAD WIDENING	5	0.130	0.32	1.63
STREET	6	0.524	1.29	6.57
TOTAL		7.973	19.70	100

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

a) SHOWN ON PLAN	d) RESIDENTIAL, COMMERCIAL & STORMWATER MANAGEMENT	f) SHOWN ON PLAN	i) TIOGA SANDY LOAM & MUCK
b) SHOWN ON PLAN		g) SHOWN ON PLAN	j) SHOWN ON PLAN
c) SHOWN ON PLAN		h) MUNICIPAL WATER	k) ALL MUNICIPAL SERVICES
			l) NONE

OWNER'S CERTIFICATE

I HEREBY AUTHORIZE INNOVATIVE PLANNING SOLUTIONS TO PREPARE THIS DRAFT PLAN OF SUBDIVISION AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

DATE	PREVIN COURT HOMES SIGNING OFFICER
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SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE	DINO ASTRI SURVEYING LTD
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SCHEDULE OF REVISIONS

No.	Date	Description	By

**INNOVATIVE PLANNING SOLUTIONS**
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Date:	September 4, 2018	Drawn By:	AM
File:	17-682	Reviewed By:	GB