

# Dodd's Lake Outline Plan

Dodd's Lake Farm



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## **Dodd's Lake Outline Plan**

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# 1. Introduction

AECOM has prepared the Dodd's Lake Outline Plan on behalf of the Dodd's Lake Farm, under the ownership of Clifford Greenwood, Shirley Greenwood, Lori Greenwood and Christopher Greenwood.

## 1.1 Purpose

The proposed plan is a unique opportunity to create a new residential development in a setting where significant natural features and amenities already exist. The goal is to create a comprehensively designed community that:

- Is sensitive to, and complements these natural features, and;
- Incorporates low to medium/higher density residential, neighbourhood commercial and recreational uses into a higher quality, affordable neighbourhood.

Detailed development objectives can be found in Section 3.1.

## 1.2 Key Elements

Key elements of the proposed plan include:

- Housing options for a mix of family types including seniors, families and single income households;
- A comprehensive system of parks and pathways (including existing mature trees, wetlands and Dodd's Lake) that facilitates a sense of community and provides connections to major amenities such as regional parks and pathways and the proposed school to the west in Hazelwood.

The proposal introduces a significant central open space area that retains the existing cluster of trees to create a definable "community centre." Landmark entry features and landscaping will be used throughout the development to ensure continuity and a cohesive community theme. The development integrates Dodd's Lake as an amenity and provides a key open space connection between the centre of the community and the lake itself.

## 1.3 Applicable Statutory Plans

This outline plan is consistent with the general intent and purpose of the Innisfail Municipal Development Plan (MDP), the North Area Structure Plan (ASP) and the Town of Innisfail Land Use Bylaw No. 1470.

## 2. Site Characteristics

### 2.1 Study Area

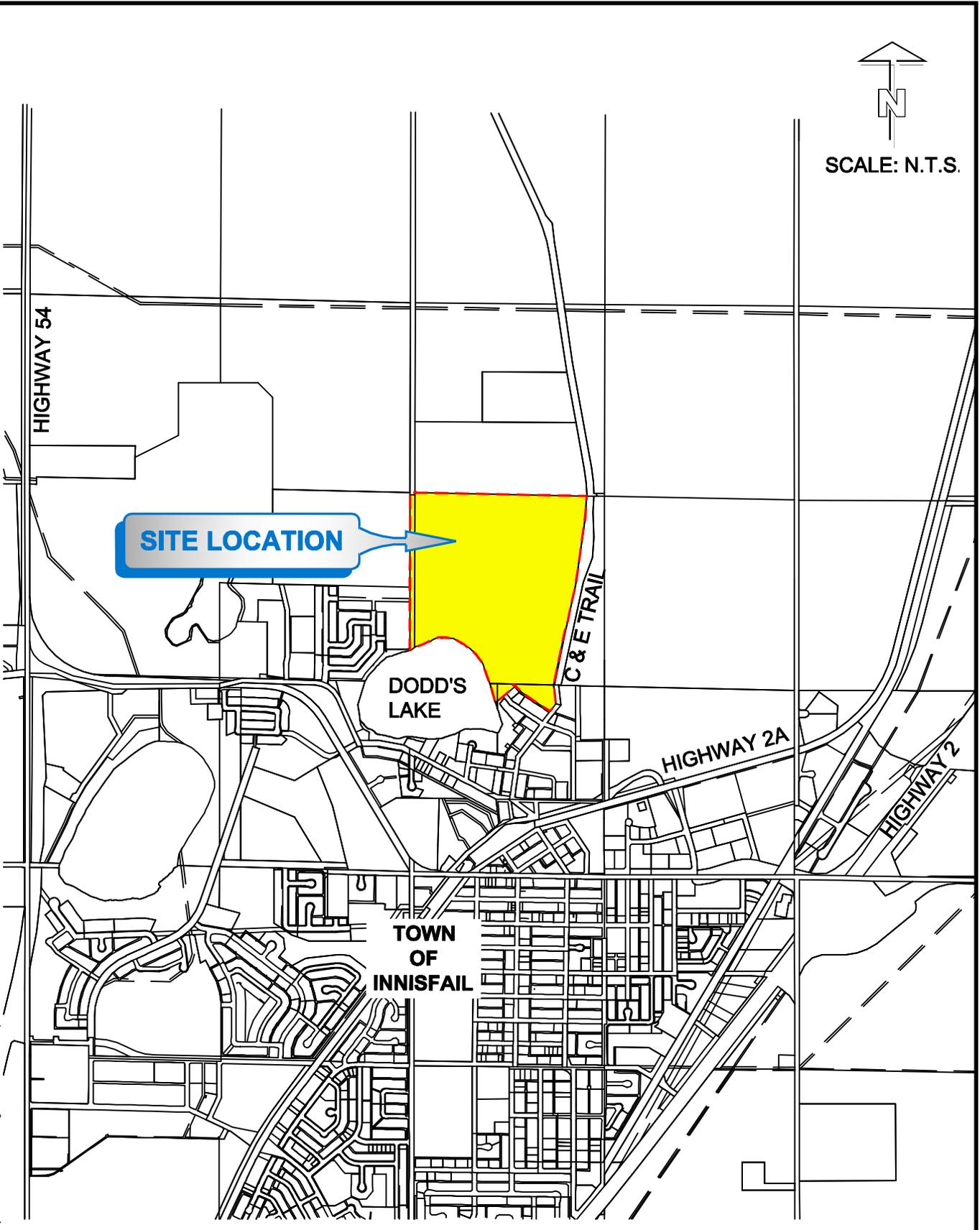
The Town of Innisfail is located in Central Alberta, 25 km south of Red Deer on the major north/south Queen Elizabeth II Highway corridor, between Calgary and Edmonton. The proposed development is located near the north edge of the Town of Innisfail and adjacent to, and west of, C & E Trail. It is bounded on the west by the new community of Hazelwood, on the north and east by undeveloped farmland, Dodd's Lake to the south, and residential and industrial to the southeast.

### 2.2 Legal Description and Ownership

The subject lands are made up of four (4) separate parcels and are registered under three (3) separate titles. For the purposes of this outline plan, and in order to distinguish between each parcel, the parcels have been named "Parcel 1" through "Parcel 4." They are legally described as follows:

- Parcel 1:** 4;28;35;28;NW (short legal)  
Section 28, Township 35, Range 28, west of the 4<sup>th</sup> meridian: all that portion of the northwest quarter which lies to the west of the westerly boundary of the roadway as shown on road plan 2563MB containing 55 hectares (135.88 acres) more or less, excepting thereout: 1.39 hectares (3.44 acres) for road and 0.49 hectares (1.01 acres) for extra road as shown on road plan 4805NY.
- Parcel 2:** 4;28;35;28;OT (short legal)  
Section, 28, Township 35, Range 28, west of the 4<sup>th</sup> meridian: all that portion of the original road allowance adjoining the west boundary of the said quarter section lying north of lake no. 2, as said lake is shown on a plan dated March 12, 1907 and to the south of the southerly limit of the roadway produced westerly across said road allowance as shown on road plan 2908BM.
- Parcel 3:** SW 28, Twp 35, Range 28, W4M:  
Plan S, Block A.
- Parcel 4:** SW 28, Twp 35, Range 28, W4M:  
Plan S: All that portion of block (E) which lies to the west of the westerly boundary of roadway as shown on the road plan R1092.

The plan area encompasses +/- 51.92 hectares (128.28 acres) not including the area of Dodd's Lake. The registered landowners of each parcel are Clifford & Shirley Greenwood, Lori Greenwood and Christopher Greenwood. The location of the plan area and the approximate ownership boundaries are shown on **Figures 1** and **2** respectively.



Dodd's Lake Farm  
Dodd's Lake Outline Plan

### Site Location



Figure 1

## 2.3 Natural Features

### 2.3.1 Topography and Soils

The topography of the site is generally flat, sloping to the northeast, with several low-lying, wet areas. There is an approximately 15 metre (49.2 feet) difference in elevation between the high point of 941.0 metres in the southwest corner and the low point of 926 metres in the northeast corner. The general soil stratigraphy within the outline plan area is native clay, clay till, silt and sand. The majority of the outline plan area has been cultivated and farmed for many years.

### 2.3.2 Drainage Course

The outline plan area contains an outlet channel from Dodd's Lake, which is a tributary to Waskasoo Creek. The flow of the outlet channel travels northeast across the property. The drainage course has an average depth of approximately 1 metre from top-of-bank to bottom-of-bank. Shrubs/bushes and some small trees can be found along the drainage course.

### 2.3.3 Dodd's Lake

Dodd's Lake is located to the south of the outline plan area. Part of the lake is included in the titled area, however, the exact area is unknown. The outline plan area borders approximately 544 metres (1785 feet) of shoreline of Dodd's Lake. Scattered tree cover and shrubbery can be found along the shore of Dodd's Lake, as well as various forms of riparian vegetation such as willows and emergent plant material.

### 2.3.4 Existing Tree Cover

There are a number of significant tree groves within the outline plan area. One stand of trees is located in the northwest corner and surrounds a small pond/wetland. The others are located in the southeast corner of the site near the existing farmstead residence. There are two large tree groves north of the residence and two smaller groves to the south. Directly to the north of the residence are two rows of trees acting as a buffer to the home. The predominant tree species within the outline plan area are Poplar and Willow, with Pine, Spruce, Maple and Ash trees located onsite as well.

### 2.3.5 Wetlands

Two ponds/wetlands are located within the outline plan area; one in the northwest and one in the southwest (see **Figure 2**). The northwest pond has an area of approximately 0.48 ha (1.20 ac); 0.47 ha (1.15 ac) of which is located within the subject property. The southwest pond has an approximate area of 0.47 ha (1.15 ac); 0.351 ha (0.89 ac) of which is located within the outline plan area. The northwest pond is bordered on the west side by a dense and mature stand of trees, and the southwest pond is surrounded by shrubs and bushes.

## 2.4 Existing Buildings & Structures

There is an existing residence and farm-related accessory buildings that are located in the southeast corner of the property.

## 2.5 Existing Land Use

The majority of the subject site (approximately 50.32 ha) is designated as Reserved for Future Development District (RD) and a small portion of the outline plan area (Parcel 3 Block A and Parcel 4 Block E) is designated as Residential Single Family District (R-1C).

## 2.6 Adjacent Land Uses

The outline plan area is bordered on the east side by the C & E Trail which separates the subject site from the adjacent quarter-section. The adjacent quarter-section, to the east, contains agricultural (Reserved for Future Development District – RD) land and industrial (Industrial District – I) uses. The parcel of land to the north is agricultural land with an existing farmstead within municipal boundaries. To the west, a residential development – Hazelwood – is currently being constructed. South of the outline plan area is Dodd's Lake and to the Southeast are medium-size single family residential lots.



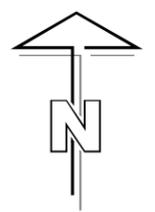
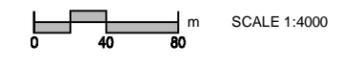
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### LEGEND

- - - - - OUTLINE PLAN BOUNDARY
- TOP OF BANK
- BOTTOM OF BANK



Dodd's Lake Farm  
 Dodd's Lake Outline Plan  
**Existing Features**

Figure 2

## 3. Development Concept

### 3.1 Development Objectives

The Dodd's Lake Outline Plan adheres to the policies contained in the Town of Innisfail's Municipal Development Plan (MDP) and North ASP. The Plan will establish an orderly development of low, medium/higher density (multi-family) residential and local commercial uses.

The following development objectives reflect a concerted effort to incorporate an ethic of conscientious design in the development of the Neighbourhood Concept. The intent of the development objectives is to act as a guideline to homebuilders in an effort to create a cohesive community that is desirable to live in. The development objectives have been based on ecological stewardship and sustainability principles as described below:

#### Ecological Stewardship and Sustainability Principles

- Develop land in an efficient manner and encourage concentrated urban development.
- Provide a range of housing types for various lifestyles and incomes.
- Provide an active and walkable community centre node by providing higher density residential in a concentrated area at the centre of the community, close to key amenities such as neighbourhood commercial, parks and open spaces, and Dodd's Lake.
- Reduce automobile dependence through extensive trail systems and compact, community centre design.
- Minimize conflicts between vehicles and pedestrians to encourage walkability in the community.
- Adopt open spaces and landscaping as central themes influencing community identity.
- Support an awareness of natural spaces through community design.
- Incorporate open spaces into compatible land uses such as the stormwater management facilities to optimize the use of these areas.
- To the extent acceptable to the Town of Innisfail, encourage naturalized landscaping to minimize environmental and economic costs associated with open space maintenance.
- Promote the development of open spaces and walkway linkages for pedestrian traffic and connect them to the surrounding areas.
- Encourage energy efficient construction and innovative building and infrastructure techniques.
- Encourage the preservation of the existing native vegetation and facilitate habitat connectivity between these areas.
- Ensure that landscaping plans at the subdivision stage clearly define areas for naturalized landscaping and the need to protect these areas from future development into a non-naturalized area for designated open space areas.
- Preserve existing, mature and healthy tree stands.

## 3.2 Neighbourhood Concept

The Land Use Concept, illustrated in **Figure 3**, provides for a variety of housing types, including higher density residential, neighbourhood commercial, as well as parks and open space in the form of municipal reserve, public utility lots and environmental reserve. The residential land use districts will consist of single family detached dwellings on compact and conventional sized lots, semi-detached (duplexes) dwellings, row housing (town housing) and apartments.

Two higher density residential parcels and a neighbourhood commercial parcel have been planned to function as a community node that is close to open space, Dodd's Lake and C & E Trail. The multi-family (row housing and apartments) and commercial buildings will be attractive, architecturally appealing and will facilitate a strong sense of place and community.

It is anticipated that homebuilders will place parking garages in the manner indicated within this Neighbourhood Concept, i.e. front facing or lane facing.

## 3.3 Low Density Residential

The proposed low density residential developments will consist of single detached dwelling units designated as R-1B, R-1C and R-1N; and semi-detached (duplex) dwelling units designated as R-2.

### 3.3.1 Single Detached Dwellings (R-1B)

The R-1B land use district accommodates single family dwellings on lots that range in size from 560 to 600 square metres or greater. R-1B lots are intended for development around the northwest, west and south peripheries of the plan area where backing onto amenity areas (Municipal Reserve, recreation areas, etc). The majority of R-1B lots proposed in this Plan do not have rear lanes; as such, homebuilders will be encouraged to incorporate front facing garages into the design of the house in a manner that is aesthetically pleasing. Where rear lane access is provided, builders will be encouraged to situate garages at the rear of the property so that they can be accessed from the lane.

### 3.3.2 Single Detached Dwellings (R-1C)

The R-1C district is intended to accommodate single family dwellings on smaller and narrower lots than R-1B lots. The lots will range in size from 460 to 510 square metres or greater. The R-1C lots will be located closer to the community centre and approximately half of the lots will have rear lane access. Where rear lanes are not provided, those lots will have a minimum width of 15.0 metres (49.21 feet). Homebuilders will be encouraged to oriented front facing garages in an aesthetically pleasing and attractive manner so streetscape that is not dominated by front drive garages.

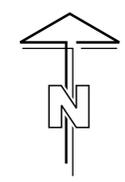
### 3.3.3 Single Detached Dwellings (R-1N)

The R-1N district is intended to accommodate single family dwellings on narrower lots than R-1C lots. The lots will range in size from 380 to 420 square metres or greater. The R-1N lots will be located close to the community centre and all lots will have rear lane access. Front facing garages will not be permitted in the R-1N District as rear lane access is provided.

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\*Note: ER, PUL & MR areas/boundaries are conceptual only & are subject to change.



**LEGEND**

- OPEN SPACE: ENVIRONMENTAL RESERVE (ER)
- OPEN SPACE: PUBLIC UTILITY LOT (PUL)
- OPEN SPACE: MUNICIPAL RESERVE (MR)
- SINGLE FAMILY RESIDENTIAL - WIDER LOTS (R1B)
- SINGLE FAMILY RESIDENTIAL - NARROWER LOTS (R1C)
- SINGLE FAMILY RESIDENTIAL - NARROWER LOTS (R1N)
- SEMI-DETACHED RESIDENTIAL (R2)
- MULTI-FAMILY RESIDENTIAL - ROWHOUSING (R3)
- MULTI-FAMILY RESIDENTIAL - APARTMENTS (R3)
- LOCAL COMMERCIAL (LC)
- FUTURE DEVELOPMENT (RD)
- PEDESTRIAN NETWORK



Dodd's Lake Farm  
Dodd's Lake Outline Plan  
**Land Use Concept**

**Figure 3**

### 3.3.4 Semi-Detached Dwellings (R-2)

Semi-detached dwelling units (rR-2) are proposed and will be located just north of the higher density area in the northwest corner of the outline plan area, just east of the proposed school site in Hazelwood. The R-2 lots will be approximately 230 square metres or larger per dwelling unit. Front drive garages will not be permitted in the R-2 District as rear lane access is provided.

## 3.4 Medium/Higher Density Residential

### 3.4.1 Multi-family Residential (R-3)

The multi-family residential development will consist of higher density residential in the form of row housing and apartment developments. These developments are proposed for the area adjacent to the local commercial area and the central open space area. They are also located so that they have good access to the arterial road system, such as the C & E Trail to the east of the site. The multi-family dwellings/buildings will be designed as part of a comprehensive development that is integrated with the central nodal area.

Architectural guidelines/controls will be created at the development permit stage and will apply to all multi-family buildings. The guidelines will ensure that the multi-family dwellings share some consistent architectural features, providing a sense of community identity and theme. Front facing garages will not be permitted in rowhousing developments that are oriented to the public street, as rear lane access is provided.

## 3.5 Reserved for Future Development (RD)

The owners of the subject lands, Cliff and Shirley Greenwood, currently reside on a homestead in the southeast part of the outline plan area. Two parcels will be dedicated as Reserved for Future Development District (RD) around their homestead at the time of land use redesignation in order to allow them to continue living at their residence. The larger of the two parcels is 0.77 hectares (1.9 ac.) in size and the smaller parcel is 0.082 hectares (0.20 ac.) for a combined total area of 0.852 hectares (2.1 ac). The larger parcel contains the residence and its accessory buildings and the smaller parcel preserves the existing driveway to the residence, the mature trees along the laneway and views from the residence to the east through this laneway corridor.

It should be noted that driveway coming off of C&E trail (the smaller parcel) for the existing residence (the larger parcel) will be removed once alternative access becomes available through the construction of Local Road AB. The view from the residence out to the east may be maintained for a longer period.

If at sometime in the future the parcels are proposed for development, the parcels would be developed as follows:

- (1) the larger parcel would be developed as a comprehensive multiple housing development that could accommodate detached dwellings, semi-detached dwellings and/or rowhousing as a bare-land condominium project; and,
- (2) the smaller parcel would be developed as one (1) single family detached lot under the R-1B District.

### 3.6 Local Commercial (LC)

A small neighbourhood commercial parcel is proposed for the corner adjacent to C & E Trail and the main Collector Road A that enters the outline plan area. The commercial uses are intended to serve the community residents providing convenience goods and services. Some of the local commercial uses that could be developed on the site include convenience stores, gas bars, car washes, drive-in businesses (such as fast food restaurants), health services, a neighbourhood shopping centre and personal services. The site will be redesignated to a Local Commercial District (LC) at the time of land use redesignation.

### 3.7 Land Use Statistics and Density

The subject property has a total area of 51.92 hectares (128.28 acres). Of the 51.92 hectares, 1.37 hectares is environmental reserve, leaving a gross developable area of 50.55 hectares. The development is anticipated to generate approximately 310 single detached dwellings/units (175 as R-1B, 123 as R-1C and 12 as R-1N), 65 semi-detached dwellings (R2), 104 row housing units (R-3) and 257 apartment units (R-3). The overall projected density and population of the development is 14.55 units per hectare (5.88 units per acre) and 1,658 people. Details of the land use statistics can be found below in [Table 1](#).

**Table 1 – Land Use Statistics**

	Ha	Ac	%	Units <sup>3</sup> (-)	Density (uph)	Density (upa)	Projected Population <sup>2</sup>
Total Area	51.92	128.28					
ER	1.37	3.37					
Net Developable Area	50.55	124.91					
MR	5.10	12.60	10.1%				
PUL	3.80	9.38	7.5%				
Roads	13.24	32.73	26.2%				
<b>Residential</b>							
R1B	14.68	36.27	29.0%	175	11.9	4.8	437
R1C	6.14	15.18	12.2%	123	20.0	8.1	307
R1N	0.46	1.13	0.9%	12	27.0	10.9	30
R2	1.51	3.72	3.0%	65	43.1	17.5	162
R3 (Rowhsg)	1.88	4.66	3.7%	104	55.2	22.3	208
R3 (Apt) <sup>1</sup>	2.06	5.09	4.1%	257	124.8	50.5	514
<b>Other</b>							
LC	0.83	2.05	1.6%				
RD	0.85	2.10	1.7%				
<b>Total</b>	<b>50.55</b>	<b>124.91</b>	<b>100%</b>	<b>736</b>	<b>14.55</b>	<b>5.88</b>	<b>1658</b>

<sup>1</sup>Maximum densities shown based on units with 2 or more bedrooms.

<sup>2</sup>Units shown for R1B, R1C, R1N, R2 and R3 Rowhousing are based on length of block frontage. Data truncated to whole numbers.

<sup>3</sup>Assumption that R1B, R1C, R1N and R2 have an average household size of 2.5 persons and 2.0 persons for R3. Data truncated to whole numbers.

### 3.8 Parks and Open Space

#### 3.8.1 Municipal Reserve

Parks and open space will be provided through the dedication of Municipal Reserve (MR) in accordance with the provisions of the Municipal Government Act and the North ASP. A dedication of 10.1%, or 5.1 ha (12.6 ac), will be provided as MR in the Dodd's Lake Outline Plan. Parks and open spaces will be interconnected throughout the development and will provide pathway linkages for pedestrians and cyclists to access green space amenities.

The parks will be designed primarily to function as passive recreation areas, but may include some aspects of active recreation.

Municipal Reserve will be provided as a buffer area between the Environmental Reserve and residential development adjacent to Dodd's Lake and for passive recreational purposes. In addition, a strip of Municipal Reserve will be provided along the full length of the western boundary of the property and will connect to the adjacent MR belt in the community of Hazelwood. Existing trees will be retained where possible in the planned MR areas. The MR areas and boundaries shown on the Land Use Concept in **Figure 3** are conceptual only and are subject to change at the time of subdivision.

#### 3.8.2 Environmental Reserve

A total of 1.37 hectares (3.37 acres) have been designated as ER within the subject property. A 10 metre wide Environmental Reserve (ER), totalling 0.548 ha (1.35 ac), will be provided along the shore of Dodd's Lake in accordance with the North ASP and Municipal Government Act. The intended ER is above the high water level established by the outlet from Dodd's Lake. The northwest and southwest ponds will also be designated as ER. The northwest pond has an ER area of 0.47 ha (1.15 ac) and the southwest pond has an ER area of 0.35 ha (0.87 ac). A six (6) metre wide public utility lot (PUL) will surround the ponds for stormwater management purposes. The ponds will be completely preserved and integrated with the rest of the Municipal Reserve and open space.

#### 3.8.3 Public Utility Lots (PUL)

Areas designated for stormwater management will be part of, and connected to, the rest of the open space network. The linear storm pond through the development will be designed as a natural area as much as possible to reduce maintenance with trails integrated around the actual storm ponds. The PUL areas and boundaries shown on the Land Use Concept in **Figure 3** are conceptual only and are subject to change at the time of subdivision.

## 4. Transportation

### 4.1 Internal Road Network

The North ASP indicates, conceptually, two east-west collector roads and a north/south collector road to be provided through the outline plan area. The collector road layout shown in **Figure 3** complies with the North ASP by providing two east-west collectors, connecting them to the Hazelwood community to the east, and by providing a direct north-south collector through the middle of the property.

Internal roads will be constructed to the Town of Innisfail's residential urban road standards. This consists of a 22.0 metre right-of-way width (and 12.5 metre carriage way) for the residential collector roads and a 16.0 metre right-of-way width (and 11.0 metre carriage way) for the residential local roads. A divided collector road will be constructed where Collector Road A connects to C&E Trail. This segment of road will have a landscaped median and boulevards, creating an attractive entrance to the neighbourhood. A break in the median will be provided to allow east-bound traffic to make a left turn to access the commercial site. Approximate locations for entranceway signage are shown on **Figure 3**. Rear lanes, designed to a width of 6 metres, will be provided throughout the development along R-1C, R-2 and R-3 land use districts as conceptualized in **Figure 3**.

"Collector Road C," identified in **Figure 3** along the northern boundary, will be split in half between the Greenwood property and the property to the north, which is consistent with the North ASP. It will enter the two properties at the northeast corner of the subject site approximately 580 metres north of the southern collector intersection at C & E Trail. The timing and potential staging of construction of the collector road will be dependent on market demand and will be a product of the design of the proposed development phase. At that time, potential benefits and associated cost sharing accruing to adjacent properties or the municipality will be estimated as part of the development agreement process.

It is expected that the Town will provide an 'endeavour to assist' for recovery of appropriate costs as part of future development agreements.

The North ASP states that road widening will be provided along all arterial roadways at the time of subdivision and the amount will be in accordance with the Municipal Development Plan (MDP). The MDP states that arterial roads shall have a 36.0 metres right-of-way width. C & E Trail is designated in both the MDP and the North ASP as an arterial road and currently has a right-of-way width of 30.0 metres. Thus, 3.0 metres will be taken along C & E Trail for road widening purposes from the subject site and 3.0 metres will be taken from the property on the east side of C & E Trail.

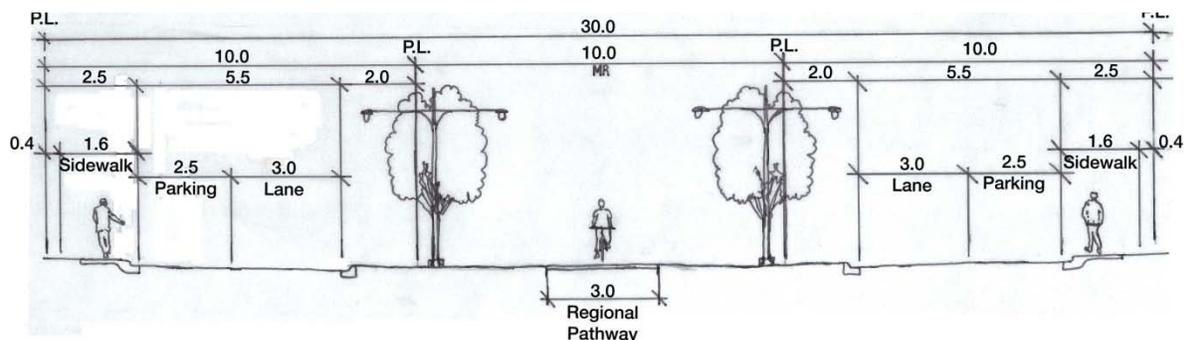
### 4.1.1 Dodd's Lake Boulevard

The key urban design feature within the this Outline Plan is Dodd's Lake Boulevard (see **Figure 3**), a roadway designed to function as a "Grand Boulevard" or "Promenade" interlinking the residential components of the land use concept with Dodd's Lake itself. The Boulevard will be an amenity that will contribute enormously to the character of the community and resident's sense of place. Dodd's Lake Boulevard is proposed to incorporate linear municipal reserve with a pathway through the middle of the tree-lined park. This pathway will provide pedestrian and park connections from the edge of the main neighbourhood intersection and higher density area to the Lake. The illustrations below provide a visual sense of what the Boulevard could look like and how it would function.

Illustration 1 – Conceptual Design, Dodd's Lake Boulevard Leading to the Lake



Illustration 2 – Conceptual Cross Section of Dodd's Lake Boulevard



## **4.2 Noise Attenuation Along C & E Trail**

The North ASP states that sufficient noise and visual attenuation measures must be provided as lands adjacent to arterial roadways are subdivided and developed. The Dodd's Lake Outline Plan has provided an open space buffer of 15.0 metres in width along C & E Trail, in addition to the 3.0 metre road widening allowance mentioned in Section 4.1. Possible noise and visual attenuation measures that could be provided within this open space may consist of a combination of berming, fences and landscaping. Pathways will be incorporated into this area as well.

## **4.3 Pathways**

Continuous pathways will be provided throughout the development as part of the parks and open space networks. Pathways will be predominantly gravel or shale and have a width of 2.5 metres. Where possible, pathways in the outline plan area will connect with pathways in adjacent communities.

## 5. Servicing

The conceptual servicing for the outline plan area was examined based upon utilizing a combination of existing Town of Innisfail mains, as well as future servicing potential identified in the North ASP.

Assumptions for the proposed servicing are noted below.

- Record drawings for the Hazelwood Estates development, immediately west of the outline plan area, were not available from the Town. Therefore, water and sewer servicing alignments proposed in the Hazelwood Estates Outline Plan, prepared by WNM Engineering, were used. WNM Engineering stated that the Hazelwood Estates construction was based upon these drawings. For the purpose of this Outline Plan, the servicing alignment was assumed accurate.
- The development and configuration of the outline plan area will be consistent with the land use concept in **Figure 3**.
- In discussions with WNM Engineering, it was identified that the lift stations and trunk mains within the Hazelwood Estates were not designed for additional sewage flow from the proposed site; however, for the purpose of this plan, a minimum available capacity was assumed for a small portion of this proposed plan.

Review by the Town of Innisfail Engineering Services will be required prior to the final design. The line sizes and lift station capacities of Hazelwood Estates would also be confirmed as part of the design phase.

### 5.1 Water

#### 5.1.1 Existing Mains

The water supply for the outline plan area is intended to be provided by the existing Town of Innisfail water mains. Based upon the Hazelwood Estates Outline Plan, a 200 mm diameter stub is located approximately 200 metres north of the south-west corner of the proposed development. A 150 mm diameter cast iron main, and a 200 mm diameter PVC main, also terminate near the south-east corner of the site, along 59 Street and 50 Avenue respectively.

#### 5.1.2 Proposed Mains

The North ASP proposes a 300 mm diameter trunk main along the C & E Trail, for future development. A proposed feeder main is to run across the site following the collector road alignment, connecting from the existing reservoir, located 700 metres from the south-east corner. For the purpose of this study, these mains were considered only for the overall watermain layout for the entire site, as one servicing option. If the mains proposed in the North ASP are not in place in the near future, the other option would be to provide an alternative looping across the site. For this looping, the 150 mm cast iron pipe along 59 Street is proposed to extend north as a 200 mm PVC main up to the collector roadway, extending west across the site within the collector road right-of-way. A utility easement will be required between 59 Street and the proposed cul-de-sac to the north, to accommodate a portion of the looping.

A conceptual water main layout for the above mentioned options, for the proposed site as a whole, is shown in **Figure 4**. It should be noted that water demand was not estimated for full development; it has been assumed that the existing Town reservoir and the associated mains feeding the development have sufficient capacity to provide flow and pressure requirements. Modelling of the system should be conducted by the Town to confirm this assumption.

## **5.2 Wastewater/Sanitary Sewers**

### **5.2.1 Existing Mains**

From record information provided by the Town, two 200 mm diameter PVC pipes terminate near the south-east corner of the site, along 59 Street and 50 Avenue respectively. Based upon the Hazelwood Estates Outline Plan, two manholes are located near the west boundary of the proposed site, one approximately 200 metres north from the south-west corner and the other approximately 200 metres south from the north-west corner of the proposed development. The depth-of-bury at these manhole locations are approximately 2.5 metres. A lift station also exists near the north-west corner of the site. These existing utilities are shown in **Figure 5**.

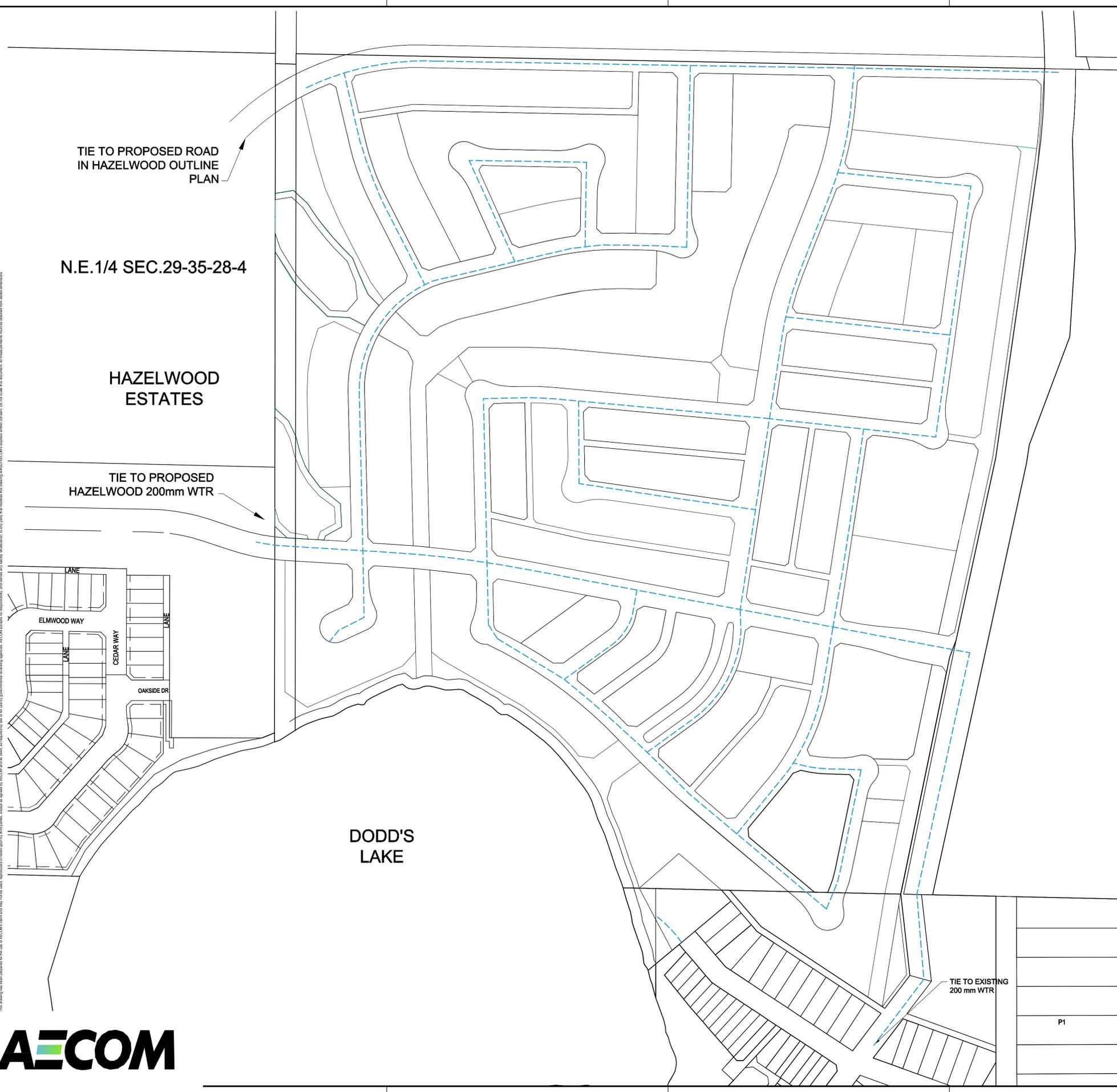
The site slopes from the south-west corner to the north-east corner with approximately 15 metres of drop. Since there is no existing development north or east of the proposed site, servicing by gravity to the existing mains is difficult without losing adequate depth-of-bury.

### **5.2.2 Proposed Mains**

A 600 mm trunk sanitary main is identified in the North ASP, along C & E Trail, bordering the east boundary of the proposed site for future developments. Timing for installation of the main has not been determined. Due to the eastward slope of the site, sanitary servicing for the entire site with gravity mains is only viable in conjunction with this trunk main, in order to provide adequate depth-of-bury for the on-site mains with minimal fill. A sanitary layout for the site was established based upon the assumption that the 600 mm trunk main is in place, and is shown on **Figure 5**. With these scenarios, on-site fill requirements will be minimal or localized in order to provide sufficient depth-of-bury.

It should be noted that the assessment did not include sewage generation and pipe sizing for the entire site. Sewage generation will be roughly equivalent to domestic water demand estimates.

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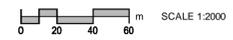
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### LEGEND

	PROPOSED	EXISTING
SITE BOUNDARY		
WATERMAIN (WTR)		
PLUG		
WATER VALVE		

### NOTES:

1. WATERMANS WILL BE SIZED BASED UPON TOTAL WATER DEMAND ESTIMATE BASED ON LAND USE.
2. CAPACITY OF EXISTING WATER AND SEWER MAINS TO BE CONFIRMED BY THE TOWN.
3. DEVELOPMENT CONFIGURATION IS CONCEPTUAL, FINAL LAYOUT AND CONFIGURATIONS WILL BE CONFIRMED THROUGH THE ENGINEERING DESIGN PROCESS.

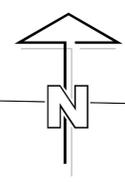


Dodd's Lake Farm  
Dodd's Lake Outline Plan  
**Water Distribution**



Figure 4

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TIE TO PROPOSED ROAD  
IN HAZELWOOD OUTLINE  
PLAN

N.E. 1/4 SEC.29-35-28-4

HAZELWOOD  
ESTATES

C & E TRAIL

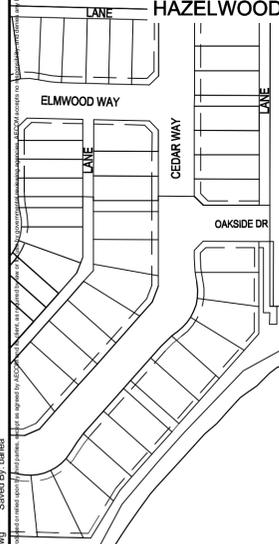
### LEGEND

	PROPOSED	EXISTING
SITE BOUNDARY		
SANITARY SEWER (SAN)		
MANHOLE		

### NOTES:

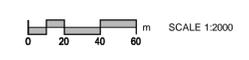
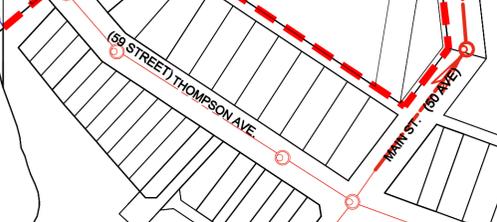
1. SANITARY PIPE SIZING FOR THE ENTIRE SITE WILL DEPEND ON FINAL LOT USE AND DEMAND ESTIMATES.
2. CAPACITY OF EXISTING WATER AND SEWER MAINS TO BE CONFIRMED BY THE TOWN.
3. DEVELOPMENT CONFIGURATION IS CONCEPTUAL. FINAL LAYOUT AND CONFIGURATIONS WILL BE CONFIRMED THROUGH THE ENGINEERING DESIGN PROCESS.

TIE TO PROPOSED  
HAZELWOOD MANHOLE



DODD'S  
LAKE

FUTURE 600 mm  
TRUNK MAIN



Dodd's Lake Farm  
Dod's Lake Outline Plan  
**Wastewater Mains**



Figure 5

## 5.3 Stormwater

### 5.3.1 Existing Conditions

From the record information and site contours provided by the Town, it appears that the direction of the existing drainage course is from the south-west to the north-east. Overflow from Dodd's Lake is released onto the site and a control structure is located at the south-west corner of the site. There is an existing intermittent overland drainage channel, from the outlet of the control structure, running towards the north-east corner of the subject site.

The Hazelwood Outline Plan states that:

“Stormwater run-off from the north half of the plan area will be directed to two (2) existing low areas. One of the low areas is located east of the plan area and south of the large municipal reserve earmarked for a future school site. It is anticipated that stormwater, collected in the minor system proposed for construction in the collector right-of-way south of the future school site, and from overland flow routes will be directed to this existing low. Water collected in this low will dissipate by evaporation, infiltration or overland flow to the major surface drainage route indicated on Map1: Significant Features of the North ASP.”

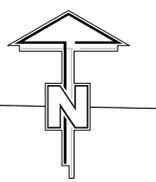
If it is indeed the case that stormwater will be directed from Hazelwood Estates onto the subject property of this outline plan, and ultimately the wetland designated as environmental reserve, then it is an assumption of this Outline Plan that such stormwater run-off will be pre-treated before entering the subject site (and wetland).

### 5.3.2 Proposed Stormwater Management

Due to the elevation drop, the proposed stormwater management system will follow the natural slope across the site, from south-west to north-east. Generally, the system is anticipated to consist of overland flow only. However, further assessment of stormwater management will be required. The conceptual land use plan, **Figure 3**, includes a central drainage channel that runs along the existing drainage channel across the site. Stormwater management ponds/facilities will be required, preferably towards the north-east, in order to control peak flow and to provide basic stormwater treatment. **Figure 6** conceptually illustrates the proposed stormwater management plan.

The stormwater system is intended to be connected with the Municipal Reserve and trail systems for the site.

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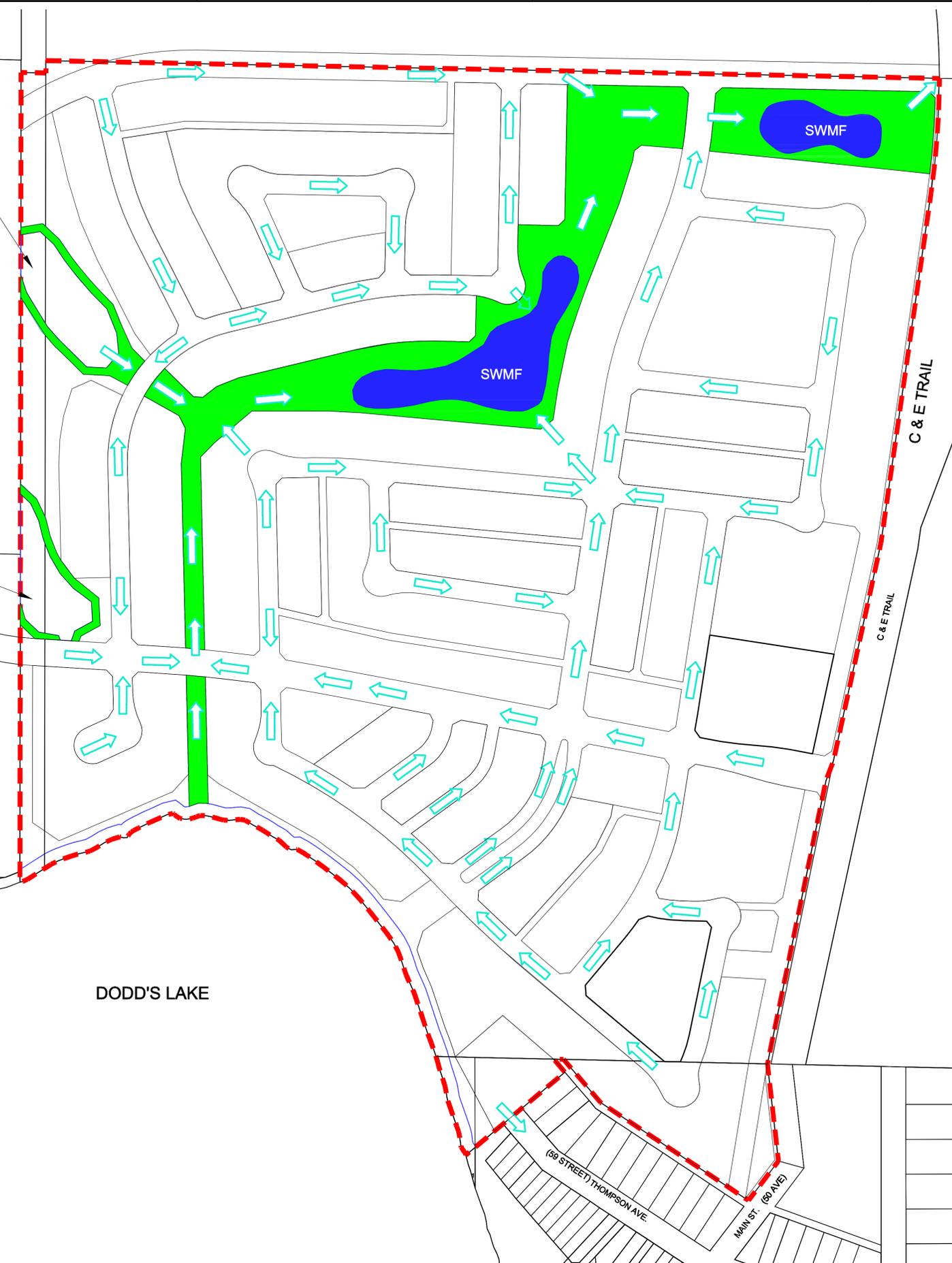


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N.E. 1/4 SEC.28-35-28-4

HAZELWOOD ESTATES

DODD'S LAKE

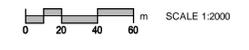


### LEGEND

- SITE BOUNDARY
- OVERLAND FLOW
- STORM WATER MANAGEMENT FACILITY (CONCEPTUAL)
- PUBLIC UTILITY LOT (PUL)

### NOTES:

1. DEVELOPMENT CONFIGURATION IS CONCEPTUAL. FINAL LAYOUT AND CONFIGURATIONS WILL BE CONFIRMED THROUGH THE ENGINEERING DESIGN PROCESS.
2. STORMWATER MANAGEMENT PLAN WILL BE REQUIRED PRIOR TO DETAILED DESIGN.



Dodd's Lake Farm  
Dodd's Lake Outline Plan

## Stormwater Management



Figure 6

## 6. Phasing

The anticipated phasing for the development is shown in **Figure 7**. Dodd's Lake will be developed in twelve (12) phases. The first phase will occur in two locations:

- (1) a small area in the southeast corner of the site, which will be an extension of 59<sup>th</sup> Street and may consist of three or four lots, and
- (2) a larger area in the southwest corner of the site adjacent to both the lake and the Hazelwood development.

Water and wastewater servicing for the southwest portion of phase one will tie into phase four of the Hazelwood development. Stormwater servicing will utilize both the linear PUL lot and the existing wetland within the phase. The wetland will only be used for stormwater retention temporarily until phase three is constructed.

The second phase will shift to the north end of the site. This is due to a couple of reasons:

- (1) the remaining phases, excluding phase one, are all dependent on the northern half (especially the northeast quarter of the site) of the development being developed first in terms of wastewater and/or stormwater servicing;
- (2) the northeast corner of the Hazelwood development is dependent on Collector Road C being developed which will provide an east-west connection to C&E Trail for wastewater servicing.

**Note: In the event that the landowner to the north is not ready to subdivide or pre-dedicate their portion of the Collector Road C right-of-way, at the same time that Phase 2 is being brought on, a potential alternative is to revisit the land use concept and move Collector Road C south, adjusting the overall layout by the 12-13m space needed.**

Apart from Phase 1 and 2, the execution of the remaining phases has been designed to be flexible; allowing for the remaining phases, with their differing land uses, to be brought online to address market demands if the opportunity arises.

The precise phasing of development overall will depend on a number of factors, including general economic conditions, the specific economics of the local housing market, the development of trunk utility mains and available capacity in existing utility mains. These issues would also affect the size and location of the proposed development phases. Thus, the phasing plan is tentative and may change due to the above factors.

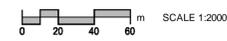
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Dodds Lake Farm  
Dodds Lake Outline Plan

### Phasing Plan

Figure 7



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- were prepared for the specific purposes described in the Report and the Agreement
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