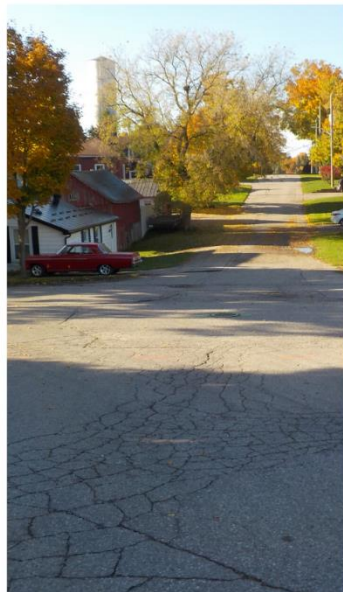


TOWNSHIP OF HURON-KINLOSS

GROWTH AND SERVICING MASTER PLAN BACKGROUND PLANNING AND ISSUES REPORT



Issued: July 10, 2020

TOWNSHIP OF HURON-KINLOSS

GROWTH AND SERVICING MASTER PLAN

BACKGROUND PLANNING AND ISSUES REPORT

July 10, 2020

B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
62 North Street
Goderich, ON N7A 2T4
Phone: 519-524-2641
Fax: 519-524-4403
www.bmross.net

File No. 18265

1.0	Introduction	1
1.1	The Township of Huron-Kinloss	2
1.2	Study Area.....	3
1.2.1	Lucknow	3
1.2.2	Ripley	5
1.2.3	Lakeshore.....	5
1.3	Background Review	8
2.0	Inventory of Land Uses, Occupancy and Historic Settlement Patterns	15
2.1	Existing Land Uses – Lucknow	16
2.2	Existing Land Uses – Ripley	18
2.3	Existing Land Uses – Lakeshore South.....	20
2.3.1	Point Clark.....	20
2.3.2	Lurgan Beach	22
2.3.3	Blairs Grove	23
2.4	Existing Land Uses – Lakeshore North	23
2.4.1	Bruce Beach	23
2.4.2	Heritage Heights	26
2.4.3	Kin-Bruce.....	29
2.4.4	Boiler Beach	29
2.4.5	Inverlyn Lake/Huronville.....	31
2.5	Occupancy.....	31
2.6	Historic Development Patterns.....	34
2.7	Inventory of Vacant Lands	47
2.8	Proposed Developments.....	57
3.0	Servicing Infrastructure Review	58
3.1	Municipal Water Infrastructure	58
3.1.1	Lucknow Water System	58
3.1.2	Ripley Water System	58
3.1.3	Lakeshore Water System.....	61
3.2	Municipal Wastewater Infrastructure	69
3.2.1	Lucknow Wastewater Treatment and Collection System.....	69
3.2.2	Ripley Wastewater Treatment and Collection System.....	69
3.2.3	Wastewater Treatment and Collection along the Lakeshore	69
3.3	Reserve Capacity Analysis	72
3.3.1	Methodology	72

3.3.2	Existing and Development Commitments.....	72
3.3.3	Total Reserve Calculations – Water Treatment.....	74
3.3.3.1	Lucknow Water Treatment Capacity and Current Demands	74
3.3.3.2	Lucknow Water Treatment Reserve Capacity.....	75
3.3.3.3	Ripley Water Treatment Capacity and Current Demands	75
3.3.3.4	Ripley Water Treatment Reserve Capacity.....	76
3.3.3.5	Lakeshore North Water Treatment Capacity and Current Usage.....	76
3.3.3.6	Lakeshore North Water Total Reserve Capacity.....	77
3.3.3.7	Lakeshore South Water Treatment Capacity and Current Usage	77
3.3.3.8	Lakeshore South Water Total Reserve Capacity	78
3.3.4	Water Storage Reserve	78
3.3.4.1	Required Volumes.....	78
3.3.5	Total Reserve Calculations – Wastewater Treatment.....	81
3.3.5.1	Lucknow WWTP Capacity and Current Flows	81
3.3.5.2	Lucknow Total Reserve Capacity	81
3.3.5.3	Lucknow Total Reserve Based on Average Concentration	81
3.3.5.4	Ripley WWTP Capacity and Current Flows	82
3.3.5.5	Ripley Total Reserve Capacity	82
3.3.5.6	Ripley Total Reserve Based on Average Concentration	82
3.3.6	Summary	82
4.0	Community Form and Function.....	83
4.1	Lucknow	84
4.2	Ripley.....	87
4.3	Lakeshore.....	91
4.3.1	Point Clark	91
4.3.2	Lurgan Beach	94
4.3.3	Blairs Grove	96
4.3.4	Bruce Beach	96
4.3.5	Heritage Heights	98
4.3.6	Kin-Bruce.....	100
4.3.7	Boiler Beach	100
4.3.8	Inverlyn Lake/Huronville.....	101
4.4	Adjacent Community Resources	102
4.5	Form and Function Summary.....	104
5.0	Planning Analysis	106

5.1	Existing Policies and Conditions	106
5.1.1	Provincial Planning Statement (2020)	106
5.1.2	Bruce County Official Plan (2016)	107
5.1.3	Huron-Kinloss Official Plan	108
5.1.4	Minimum Distance Separation (MDS)	109
5.2	Analysis of Potential Growth Lands.....	109
5.2.1	Environmental Considerations	112
5.2.1.1	Species at Risk	112
5.2.1.2	Lucknow.....	116
5.2.1.3	Ripley.....	118
5.2.1.4	Lakeshore	118
5.2.2	Planning Considerations	118
5.2.2.1	Lucknow.....	122
5.2.2.2	Ripley.....	124
5.2.2.3	Lakeshore	124
5.2.3	Infrastructure Considerations	124
5.2.3.1	Water Infrastructure.....	124
5.2.3.2	Wastewater Infrastructure	128
5.2.4	Combined Constraint Analysis	128
5.2.4.1	Lucknow.....	129
5.2.4.2	Ripley.....	129
5.2.4.3	Lakeshore South.....	132
5.2.4.4	Lakeshore North.....	132
6.0	Summary and Future Steps	135
6.1	Future Steps	138
7.0	References.....	140

LIST OF FIGURES

Figure 1.1	General Location of the Township of Huron-Kinloss.....	2
Figure 1.2	Village of Lucknow, General Layout and Streets	4
Figure 1.3	Village of Ripley, General Layout and Streets	6
Figure 1.4	Lakeshore Communities in Huron-Kinloss.....	7
Figure 1.5A	Lakeshore South - Point Clark General Layout and Streets	9
Figure 1.5B	Lakeshore South – Lurgan Beach General Layout and Streets.....	10
Figure 1.5C	Lakeshore South – Blairs Grove General Layout and Streets	11
Figure 1.6A	Lakeshore North – Bruce Beach General Layout and Streets	12

Figure 1.6B Lakeshore North – Heritage Heights, Kin-Bruce and Boiler Beach (south).....	13
Figure 1.6C Lakeshore North – Inverlyn Lake/Huronville and Boiler Beach (north)	14
Figure 2.1 Land Use Inventory - Lucknow.....	17
Figure 2.2 Land Use Inventory - Ripley	19
Figure 2.3A Land Use Inventory – Lakeshore South, Point Clark.....	21
Figure 2.4A Land Use Inventory - Lakeshore North, Bruce Beach	27
Figure 2.5 Residential Building Permits Issued, 2000-2019.....	36
Figure 2.6 Residential Building Permits, Inverlyn Lake/Huronville, 2000-2019	37
Figure 2.7 Residential Building Permits, Heritage Heights, 2000-2019.....	38
Figure 2.8 Residential Building Permits, Point Clark, 2000-2019.....	39
Figure 2.9 Residential Building Permits, Lurgan Beach, 2000-2019	40
Figure 2.10 Residential Building Permit, Blairs Grove, 2000-2019	41
Figure 2.11 Residential Building Permits, Bruce Beach, 2000-2019.....	42
Figure 2.12 Residential Building Permits, Kin-Bruce, 2000-2019	43
Figure 2.13 Residential Building Permit, Boiler Beach, 2000-2019.....	44
Figure 2.14 Residential Building Permits, Ripley, 2000-2019	45
Figure 2.15 Residential Building Permit, Lucknow, 2000-2019.....	46
Figure 2.16 Vacant Lands, Lucknow	48
Figure 2.17 Vacant Lands, Ripley	49
Figure 2.18 Vacant Lands, Point Clark.....	51
Figure 2.19 Vacant Lands, Lurgan Beach	52
Figure 2.20 Vacant Lands, Blairs Grove.....	53
Figure 2.21 Vacant Lands, Bruce Beach.....	54
Figure 2.22 Vacant Lands, Heritage Heights, Kin-Bruce, Boiler Beach (south)	55
Figure 2.23 Vacant Lands, Inverlyn Lake/Huronville, Boiler Beach (north)	56
Figure 3.1 Lucknow Water System.....	59
Figure 3.2 Ripley Water Infrastructure.....	60
Figure 3.3A Lakeshore South Drinking Water Infrastructure, Amberley.....	62
Figure 3.3B Lakeshore South Drinking Water Infrastructure, Point Clark	63
Figure 3.3C Lakeshore South Infrastructure, Lurgan Beach.....	64
Figure 3.3D Lakeshore South Infrastructure, Blairs Grove	65
Figure 3.4A Lakeshore North Water Infrastructure, Bruce Beach.....	66
Figure 3.4B Lakeshore North Water Infrastructure, Heritage Heights, Kin-Bruce	67
Figure 3.4C Lakeshore North Water Infrastructure, Inverlyn Lake/Huronville, Boiler Beach	68
Figure 3.5 Wastewater Infrastructure, Lucknow	70
Figure 3.6 Wastewater Infrastructure, Ripley	71
Figure 4.1 Lucknow Community Resources	85
Figure 4.2 Ripley Community Resources	89
Figure 4.3A Lakeshore South Community Resources	93
Figure 4.3B Lakeshore South Community Resources	95
Figure 4.4 Lakeshore North Community Resources.....	99
Figure 4.5 Adjacent Community Resources	103
Figure 5.1 Factors Considered for Analysis.....	111
Figure 5.2 Environmental Constraints, Lucknow	117
Figure 5.3 Environmental Constraints, Ripley	119
Figure 5.4 Environmental Constraints, Lakeshore South.....	120
Figure 5.5 Environmental Constraints, Lakeshore North	121

Figure 5.6 Planning Constraints, Lucknow	123
Figure 5.7 Planning Constraints, Ripley	125
Figure 5.8 Planning Constraints, Lakeshore South	126
Figure 5.9 Planning Constraints, Lakeshore North	127
Figure 5.10 Development Constraint Analysis Summary, Lucknow.....	130
Figure 5.11 Development Constraint Analysis Summary, Ripley.....	131
Figure 5.12 Development Constraints Analysis Summary, Lakeshore South	133
Figure 5.13 Development Constraint Analysis Summary, Lakeshore North.....	134

LIST OF TABLES

Table 2.1 Categories of Land Uses Used to Inventory Properties	15
Table 2.2 Summary of Land Uses in Lucknow	16
Table 2.3 Summary of Land Uses in Ripley	18
Table 2.4 Inventory of Land Uses in Point Clark.....	22
Table 2.5 Inventory of Land Uses in Lurgan Beach.....	22
Table 2.6 Inventory of Land Uses in Blairs Grove	23
Table 2.7 Inventory of Land Uses in Bruce Beach.....	26
Table 2.8 Inventory of Land Uses in Heritage Heights.....	26
Table 2.9 Inventory of Land Uses in Kin-Bruce	29
Table 2.10 Inventory of Land Uses in Boiler Beach.....	29
Table 2.11 Inventory of Land Uses in Inverlyn Lake/Huronville	31
Table 2.12 Summary of Permanent and Seasonally Occupied Properties along the Lakeshore	32
Table 2.13 2019 Background Planning and Issues Study Areas and Corresponding Study Areas from 1999 Risk Assessment Study.....	33
Table 2.14 Proportion of Properties Occupied on Seasonal and Permanent Basis, 1977-2019.	34
Table 2.15 Summary of Building Permits Issued for New Residential Development per Area, 2000-2019.....	34
Table 2.16 Summary of Vacant and.....	47
Table 3.1 Water System Customers in Huron-Kinloss System	73
Table 3.2 Wastewater System Customers in Huron-Kinloss by System	73
Table 3.3 Development Commitments - Lucknow	73
Table 3.4 Development Commitments - Ripley	73
Table 3.5 Development Commitments – Lakeshore North	74
Table 3.6 Development Commitments – Lakeshore South.....	74
Table 3.7 Treatment Capacity - Lucknow.....	74
Table 3.8 Maximum Day Demand 2016-2018 Lucknow	75
Table 3.9 Reserve Capacity Lucknow	75
Table 3.10 Treatment Capacity - Ripley	75
Table 3.11 Maximum Day Demand, 2016-2018, Ripley	76
Table 3.12 Treatment Capacity – Lakeshore North	76
Table 3.13 Maximum Day Demand 2016-2018 – Lakeshore North	77
Table 3.14 Reserve Capacity – Lakeshore North	77
Table 3.15 Treatment Capacity - Lakeshore South	77

Table 3.16 Maximum Day Demand 2016-2018 – Lakeshore South.....	78
Table 3.17 Reserve Capacity - Lakeshore South	78
Table 3.18 Water Storage Facilities - Lucknow and Ripley.....	78
Table 3.19 Storage Requirements for Peak Flow Equalization - Lucknow.....	79
Table 3.20 Storage Requirements for Fire Protection - Lucknow	79
Table 3.21 Storage Requirements for Fire Protection - Ripley.....	79
Table 3.22 Storage Requirements for Fire Protection - Lakeshore System	79
Table 3.23 Storage Requirement for Emergencies.....	80
Table 3.24 Storage Summary - Lucknow	80
Table 3.25 Storage Summary - Ripley	80
Table 3.26 Storage Summary – Lakeshore System	80
Table 3.27 Wastewater Flows 2016-2018 - Lucknow	81
Table 3.28 Reserve Capacity - Lucknow.....	81
Table 3.29 Wastewater Flows 2016-2018 - Ripley	82
Table 3.30 Reserve Capacity - Ripley	82
Table 3.31 Uncommitted Reserve Capacity Based on Rated Capacity	83

LIST OF APPENDICES

APPENDIX A – Vacant Lot Inventory

TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING MASTER PLAN BACKGROUND PLANNING AND ISSUES REPORT

1.0 INTRODUCTION

The Township of Huron-Kinloss encompasses urban, rural and lakeshore areas which experience different growth pressures and rates of development. Changing demographics, development trends, societal wants, and external growth factors have influenced growth patterns within the Township over the last twenty years. Looking forward, the Township would like to proactively plan for future growth in an efficient and comprehensive manner, that is well-informed by existing conditions, opportunities and constraints. It is expected that a Growth and Servicing Master Plan will inform future planning and servicing decisions; however, prior to initiating a Master Plan it is important to build an understanding of the current planning and development conditions.

The intent of this report is to compile and document the background information that will inform future growth studies. This report will serve as a resource for future planning efforts and will assist in directing future studies and engineering reviews. The research and analyses undertaken during the preparation of this report encompasses a variety of topics related to growth and development, including current planning policies, historic building trends, patterns in occupation, vacant land assessments, community resources, community character, infrastructure capacity, and growth opportunities and constraints.

This report is organized around the following four topics:

- Current land uses and historical settlement patterns;
- Water and wastewater servicing capacity;
- Community form and function; and
- Community planning analyses.

The background research and analyses completed for each of the above-noted topics are summarized and discussed in individual sections within this report. The report also includes a discussion of the next steps in working towards a Growth and Servicing Master Plan.

1.1 The Township of Huron-Kinloss

The Township of Huron-Kinloss is located in the southwestern corner of the County of Bruce and has a permanent population of approximately 7,070 persons as of 2016 (Statistics Canada, 2017). It is bounded by Lake Huron to the west, Municipality of Kincardine to the north, on the east by the Municipality of South Bruce and Municipality of Brockton, and by Ashfield-Colborne-Wawanosh (ACW) to the south.

The Township was formed in 1999 through the amalgamation of the former Township of Huron, Township of Kinloss and Village of Lucknow. Located along the southeastern shore of Lake Huron, the Township has a land base of approximately 475 km². The land in the Township is predominately used for agricultural purposes; however, there are two primary settlement areas, Lucknow and Ripley, and extensive development along the length of the lakeshore. The lakeshore area includes both seasonal and permanent residences. There are several smaller hamlets through the Township, including: Amberley, Pine River, Kinloss, Holyrood, Whitechurch and Kinlough. The general location of the Huron-Kinloss, primary settlement areas and hamlets in the Township are shown in Figure 1.1.

Figure 1.1 General Location of the Township of Huron-Kinloss



Agriculture and tourism are the dominant economic sectors within the Township. In the region, the energy sector is the major economic driver. This is the result of the presence of Bruce Power, a nuclear power generating facility, north of Kincardine. The economic influence of Bruce Power extends to Huron-Kinloss, with many residents employed at the site or in related

fields. Other residents employed outside of the Township commute to Kincardine, Wingham, Walkerton and Goderich.

1.2 Study Area

For the purposes of this background analysis of issues related to growth and development in Huron-Kinloss, this study will focus on three specific areas within the Township – Ripley, Lucknow and the Lakeshore. These areas are the largest population centres within the Township and historically are where most of the growth and development has occurred. Ripley and Lucknow are considered primary settlement areas, with full municipal water and wastewater servicing available. Given this, policies of the Township’s Official Plan direct the majority of future growth to these communities (Township of Huron-Kinloss, 2016). The Lakeshore is partially serviced (municipal water services are available) and minor rounding out and infilling are permitted. The Official Plan specifies that development of permanent and seasonal residential uses is a desired outcome, provided it is balanced against protection of the sensitive coastal environment (Township of Huron-Kinloss, 2016).

The hamlet areas, such as Whitechurch and Kinlough, have not been included in the analyses for this study. These areas were excluded as development pressures have been low and future development is limited to minor infilling. It is expected that new development in the hamlets will be minimal and there are enough lands currently available to accommodate the low levels of growth.

1.2.1 Lucknow

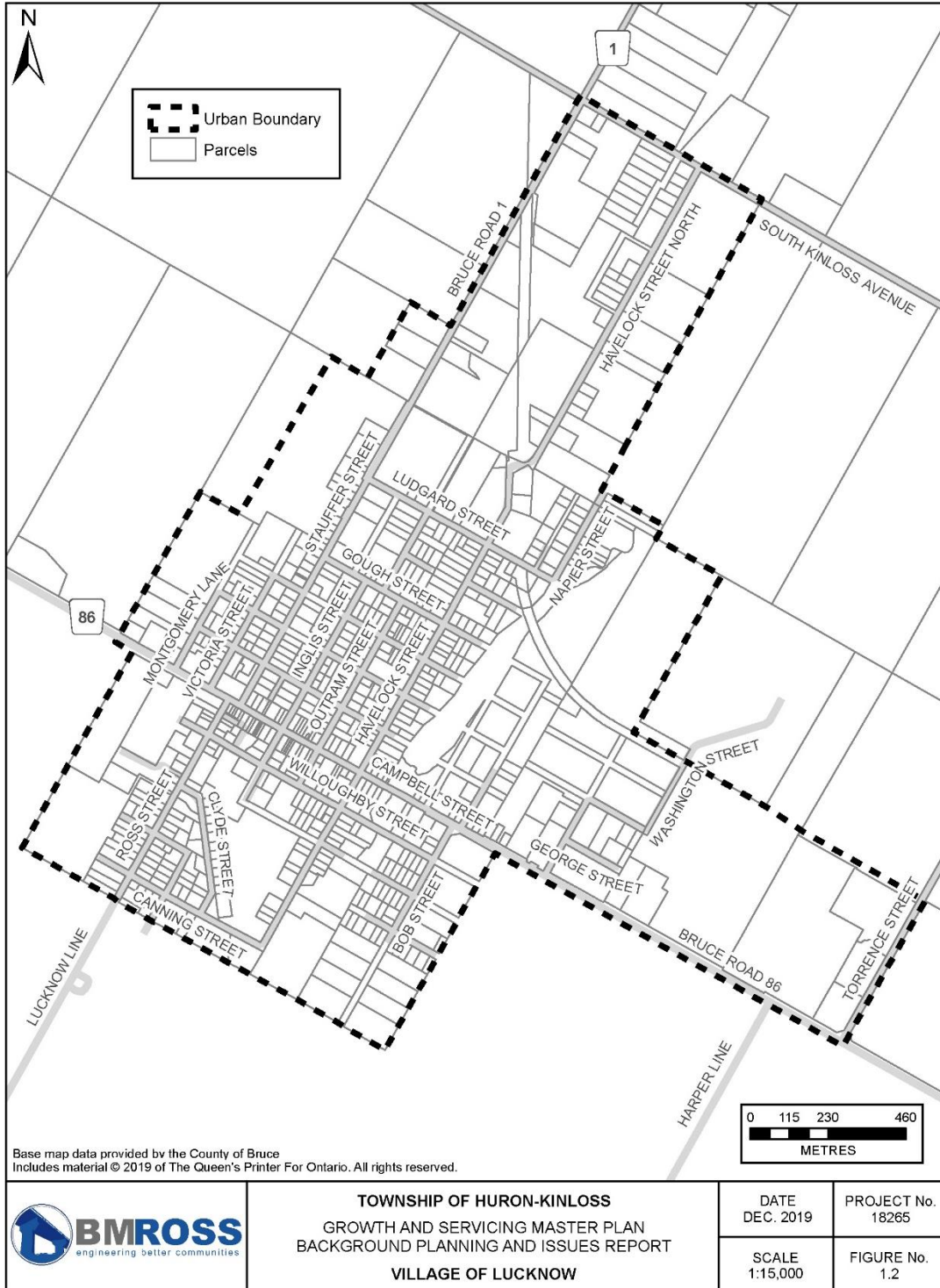
Lucknow is the largest primary settlement area within Huron-Kinloss. It is situated along County Road 86, approximately 20 kilometers west of Wingham, along the southern boundary with the Township of Ashfield-Colborne-Wawanosh (Figure 1.2). The population of Lucknow is approximately 1,120 persons, as reported in the 2016 Census (Statistics Canada, 2017). There are over 500 private dwellings in the community. Lucknow serves as a commercial and industrial centre for the surrounding rural area. Dickies Creek, Kinloss Creek and Anderson Creek all flow through Lucknow and converge south of the village. Lands around these creeks are zoned to reflect potential flooding hazards.

Lucknow has a well-defined commercial core along County Road 86 (Campbell Street), featuring restaurants, a bank, funeral home, bakery, hardware store, clothing store, florist and pharmacy, in addition to several offices. The community also features a nursing home, public elementary school, arena, library, churches, medical offices, precast concrete manufacturer, and an industrial grain elevator. There are also a number of industries located along County Road 1 in Ashfield-Colborne-Wawanosh, within close proximity to Lucknow, including Lucknow Co-op and Helm Welding.



The Lucknow Water Distribution System serves all the properties within Lucknow and some properties along County Road 1 in Ashfield-Colborne-Wawanosh. The system is supplied by groundwater wells located in the village. Lucknow is also serviced by a wastewater collection system which transmits sanitary sewage to aerated lagoons for treatment.

Figure 1.2 Village of Lucknow, General Layout and Streets



1.2.2 Ripley

The community of Ripley is centred around the intersection of Bruce Road 6 (Concession 8) and Bruce Road 7 (Sideroad 15), in the former Huron Township (see Figure 1.3). It serves as the administrative centre for the Township, being home to the municipal office. Ripley is a small, rural community with a population of approximately 760 residents in 2016. There are approximately 340 private dwellings in the village (Statistics Canada, 2017). There are a small number of businesses in Ripley that service the surrounding rural area. The community includes an arena, fire department, public elementary school, a church, a daycare centre, curling rink, bank, post office and library. The commercial core of the village is centered around the intersection of Queen Street and Huron Street. It features a restaurant, variety store, convenience store and LBCO outlet, and offices. A number of the storefronts are currently unoccupied. There is a large block of former commercial buildings on Queen Street, east of Huron Street that are unoccupied.



Major employers within Ripley include Hurontel, Hensall Co-op, and the Township.

Ripley has full municipal water and wastewater services available. Water is supplied via a groundwater system. Wastewater is treated through an aerated lagoon system, located at the eastern edge of the village.

1.2.3 Lakeshore

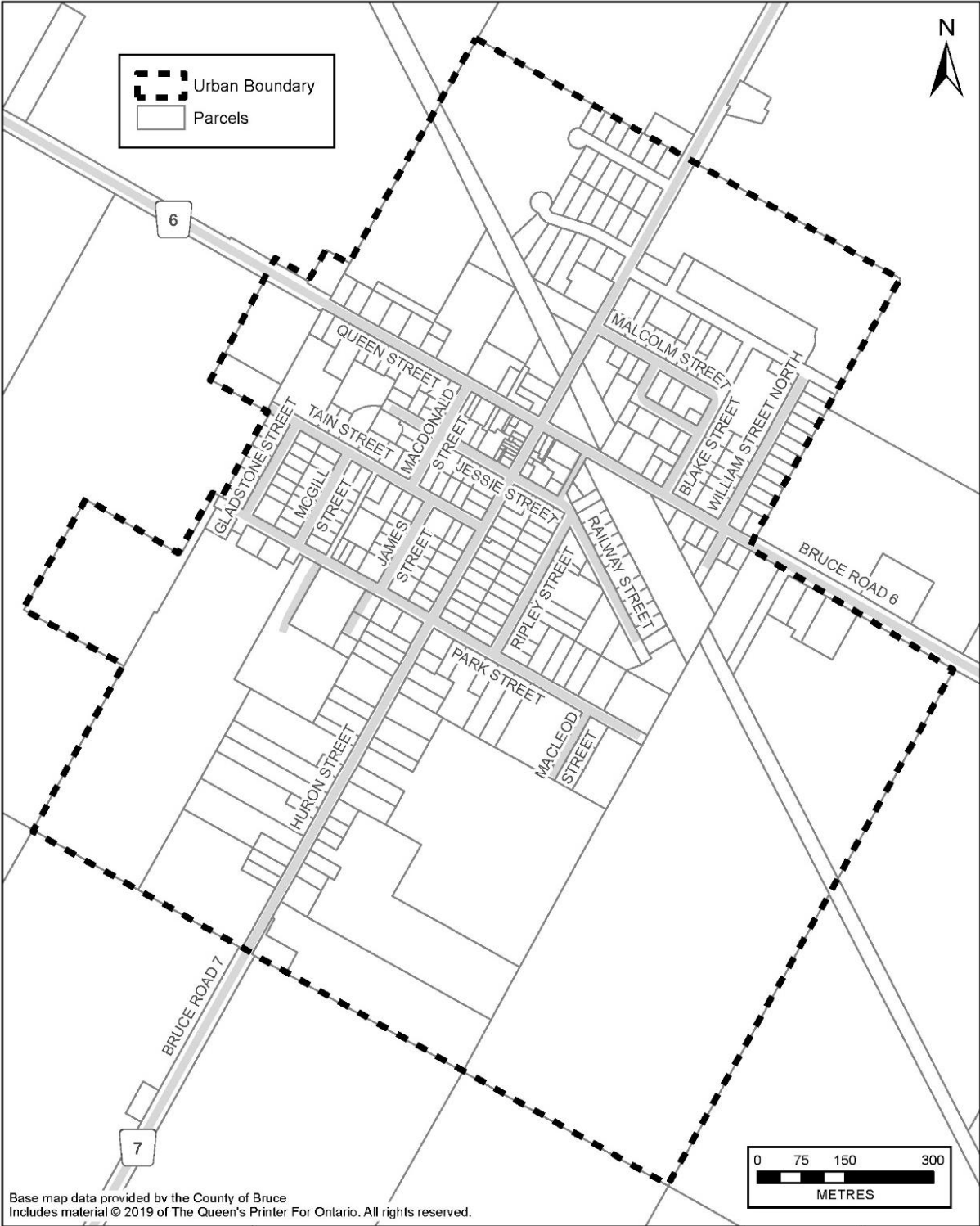
The Lakeshore secondary settlement area stretches from Amberley at the south end of Huron-Kinloss to the northern boundary with the Municipality of Kincardine. It generally includes the lands between Lake Huron and Lake Range Drive and is made up of a number of distinct areas or communities. These areas include:

- Point Clark;
- Lurgan Beach;
- Blairs Grove;
- Bruce Beach;
- Heritage Heights;
- Kin-Bruce;
- Boiler Beach; and
- Inverlyn Lake/Huronville.



Figure 1.4 shows the locations of these different lakeshore communities. Generally, these communities are residential in nature, with limited commercial or other land uses. In many of the Lakeshore communities there is a mix of seasonal and permanently occupied homes as a result of their proximity to Lake Huron. The oldest of these communities, Point Clark, Lurgan Beach and Bruce Beach were originally cottage communities and still have many seasonal residences. Other communities, such as Heritage Heights, have more permanently occupied homes. The different communities vary significantly in terms of size, density and occupation (in terms of seasonal or permanent residency).

Figure 1.3 Village of Ripley, General Layout and Streets



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING MASTER PLAN BACKGROUND PLANNING AND ISSUES REPORT VILLAGE OF RIPLEY		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:9,000	FIGURE No. 1.3

Figure 1.4 Lakeshore Communities in Huron-Kinloss



The Lakeshore is serviced by a municipal water system. The water system is supplied by municipal groundwater wells. This system, in addition to servicing residents of Huron-Kinloss, also extends into ACW and services residents in Amberley and Amberley Beach. Inverlyn Lake and Huronville are serviced by the Kincardine sewage collection and water distribution system. Sanitary sewage in all the other Lakeshore areas is treated utilizing on-site private treatment units (i.e. septic systems).

For the purposes of organization of this report and mapping, the Lakeshore has been split into Lakeshore South and Lakeshore North. Lakeshore South includes the areas south of Concession 6 – Point Clark (Figure 1.5a), Lurgan Beach (Figure 1.5b) and Blairs Grove (Figure 1.5c). Lakeshore North encompasses Bruce Beach (Figure 1.6a), Heritage Heights, Kin-Bruce, Boiler Beach (Figure 1.6b), and Inverlyn Lake/Huronville (Figure 1.6c).

1.3 Background Review

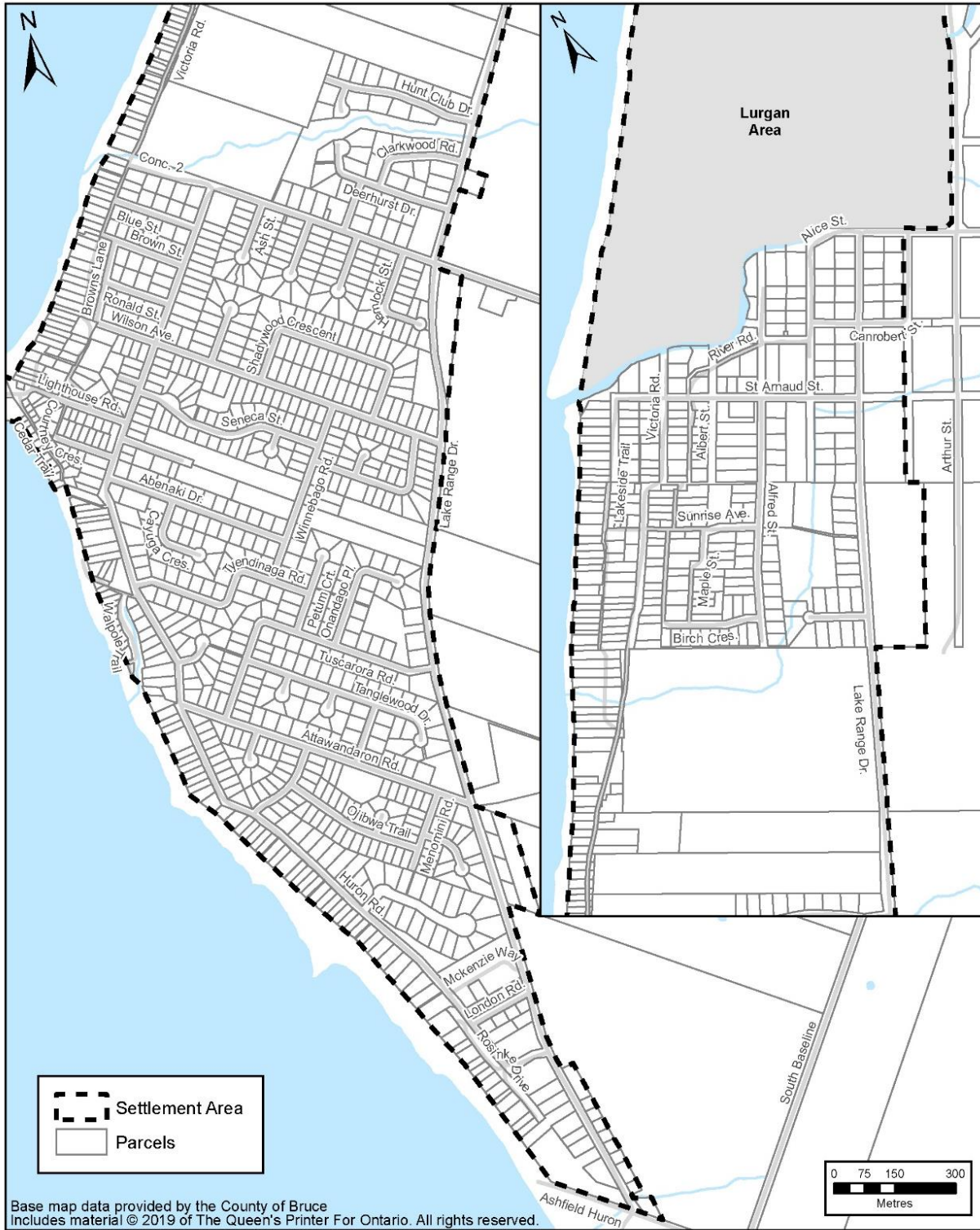
In carrying out the background review of planning and development trends and issues in Huron-Kinloss, a number of activities were undertaken. These activities include:

- Compiling a general description of the Township of Huron-Kinloss, primary settlement areas, and secondary settlement areas in the Township;
- Assembly and assessment of historic building permit data;
- Review of previous studies and reports pertaining to the study area;
- Determining residential occupation (i.e. permanent or seasonal);
- Calculating committed and uncommitted reserve capacities for the water and wastewater systems;
- Reviewing provincial and local planning policies;
- Inventorying land uses within the study area; and
- Reviewing built form, linkages and functions within the study area.

In order to complete the above-noted activities, a range of key information sources were consulted. These sources include:

- Township of Huron-Kinloss files and discussions with staff;
- B. M. Ross and Associates Limited files and related studies;
- Township of Huron-Kinloss Official Plan and Comprehensive Zoning By-law;
- Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (NHIC website);
- Statistics Canada, 2106 Census of Population for Huron-Kinloss;
- Saugeen, Grey Sauble, Northern Bruce Peninsula Source Water Protection Assessment Report and Source Protection Policy;
- Ontario Provincial Policy Statement, 2014;
- Ontario Ministry of Agriculture, Food and Rural Affairs, Minimum Distance Separation (MDS) Document; and
- The Township of Huron Risk Assessment Study for Continued Development on Septic Systems in the Lakeshore Area.

Figure 1.5A Lakeshore South - Point Clark General Layout and Streets



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.



TOWNSHIP OF HURON-KINLOSS
GROWTH AND SERVICING PLAN
BACKGROUND PLANNING AND ISSUES REPORT
LAKESHORE SOUTH
Point Clark

DATE DEC. 2019	PROJECT No. 18265
SCALE 1:13,000	FIGURE No. 1.5a

Figure 1.5B Lakeshore South – Lurgan Beach General Layout and Streets

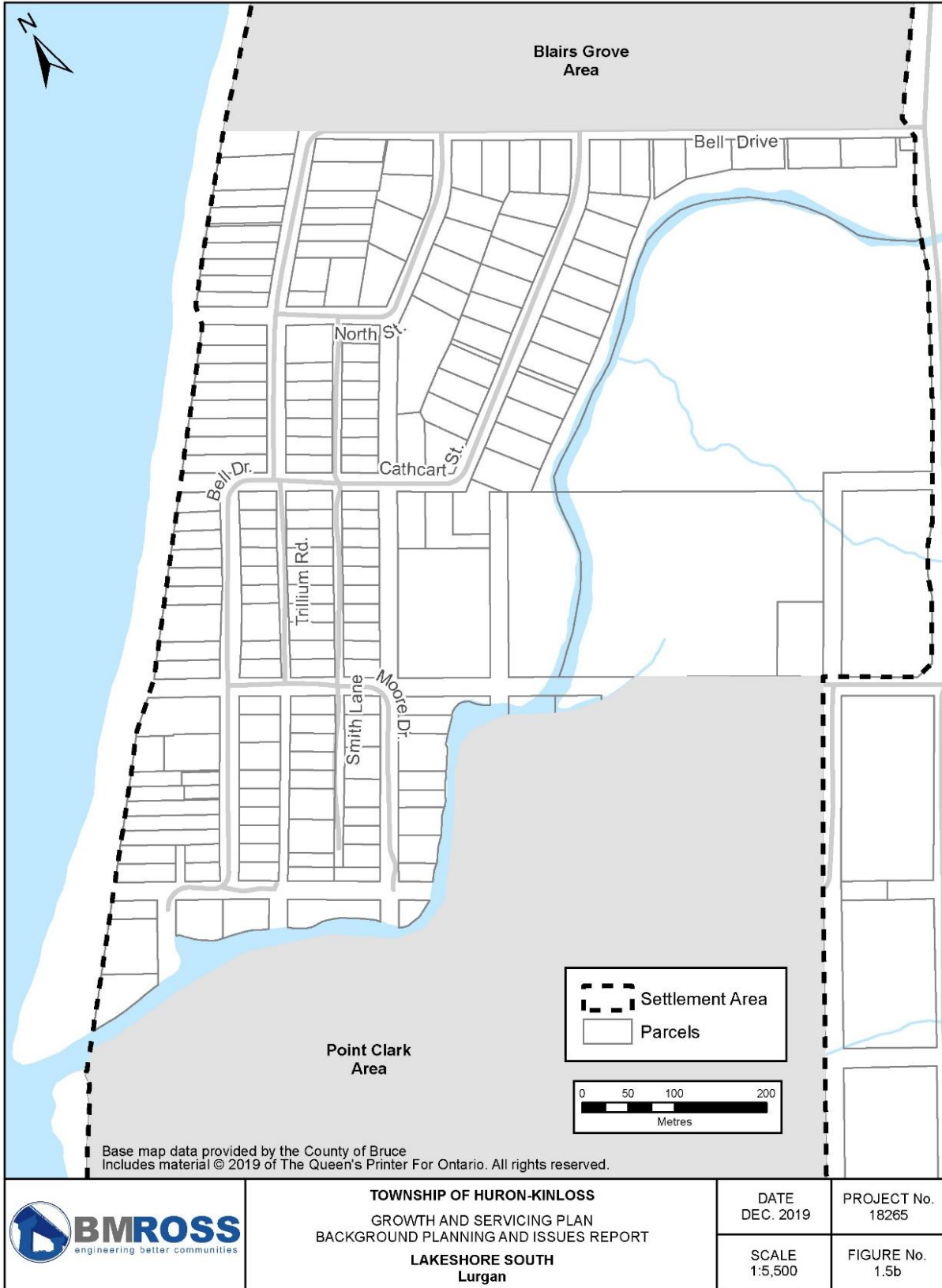
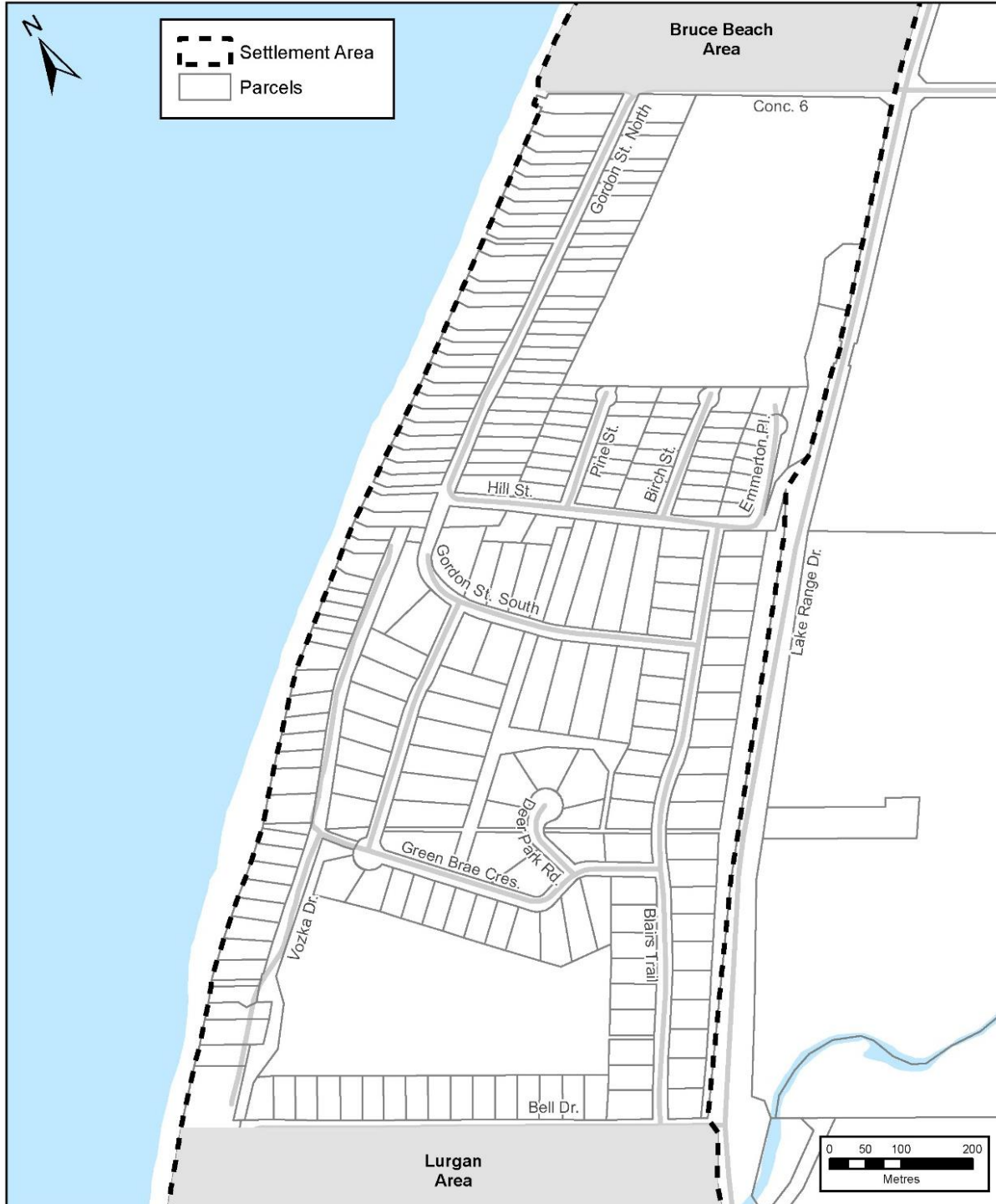


Figure 1.5C Lakeshore South – Blairs Grove General Layout and Streets



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


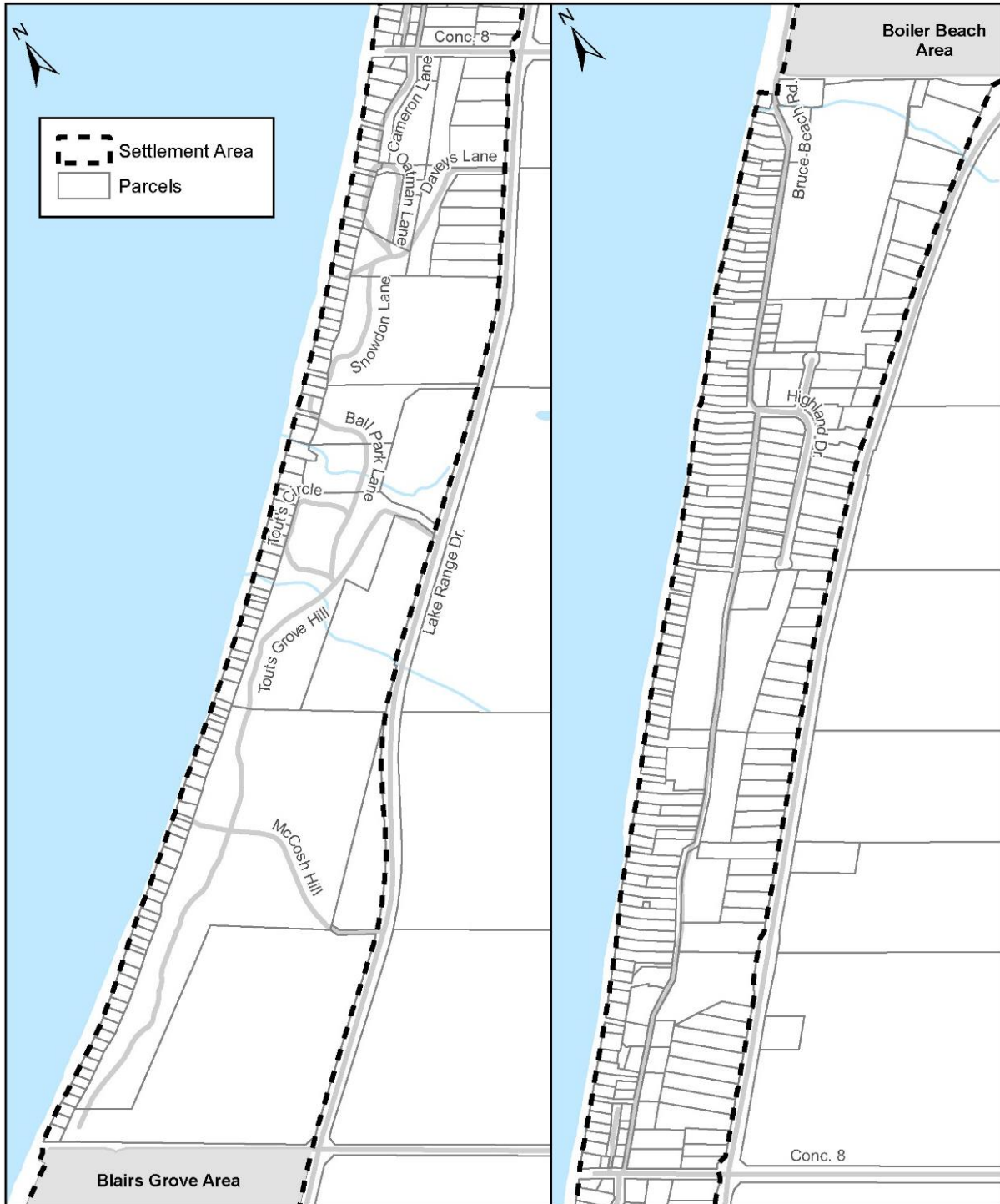
	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH Blairs Grove	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:7,500	FIGURE No. 1.5c

Figure 1.6A Lakeshore North – Bruce Beach General Layout and Streets



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


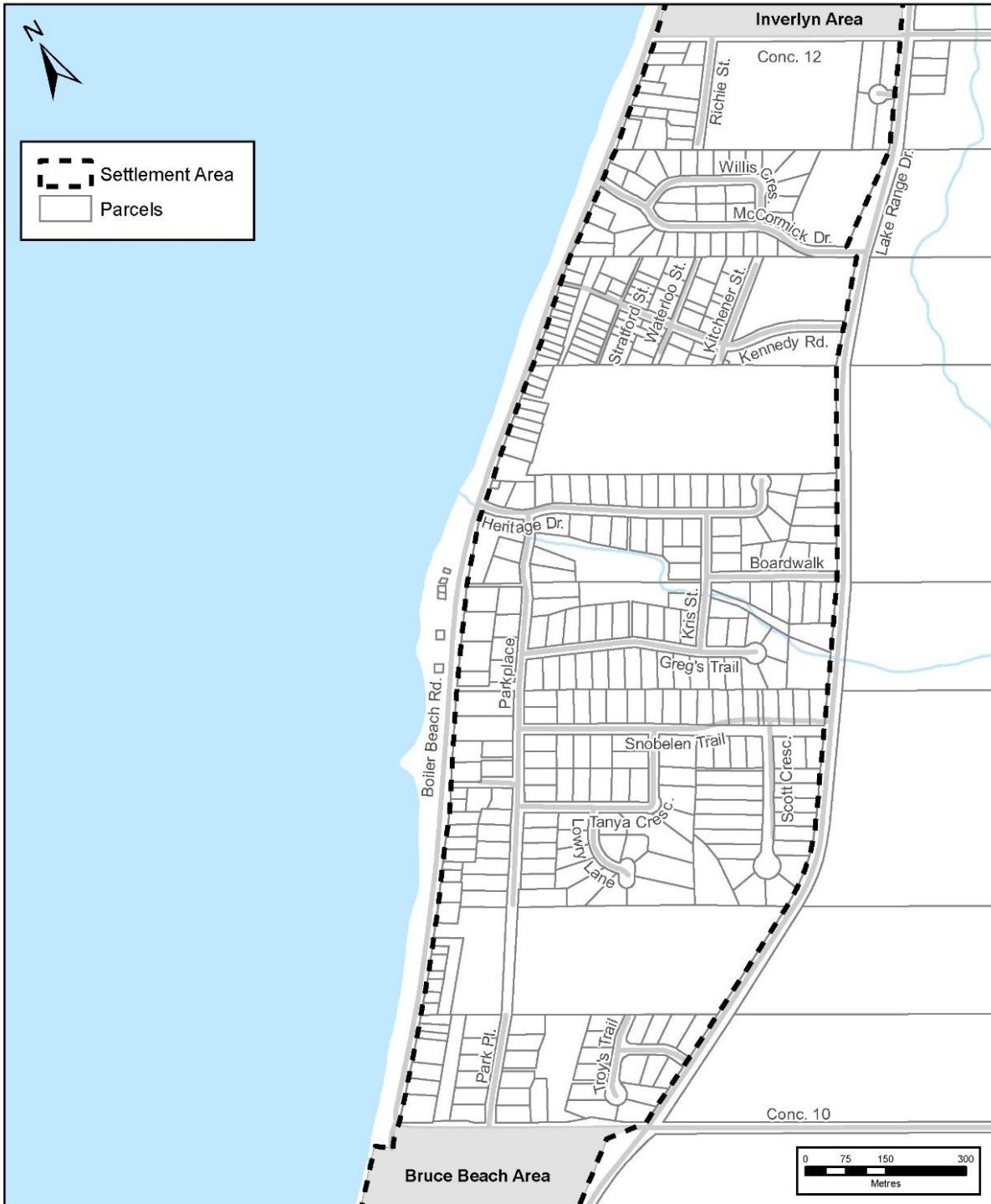
	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH Bruce Beach		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:10,000	FIGURE No. 1.6a

Figure 1.6B Lakeshore North – Heritage Heights, Kin-Bruce and Boiler Beach (south)



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


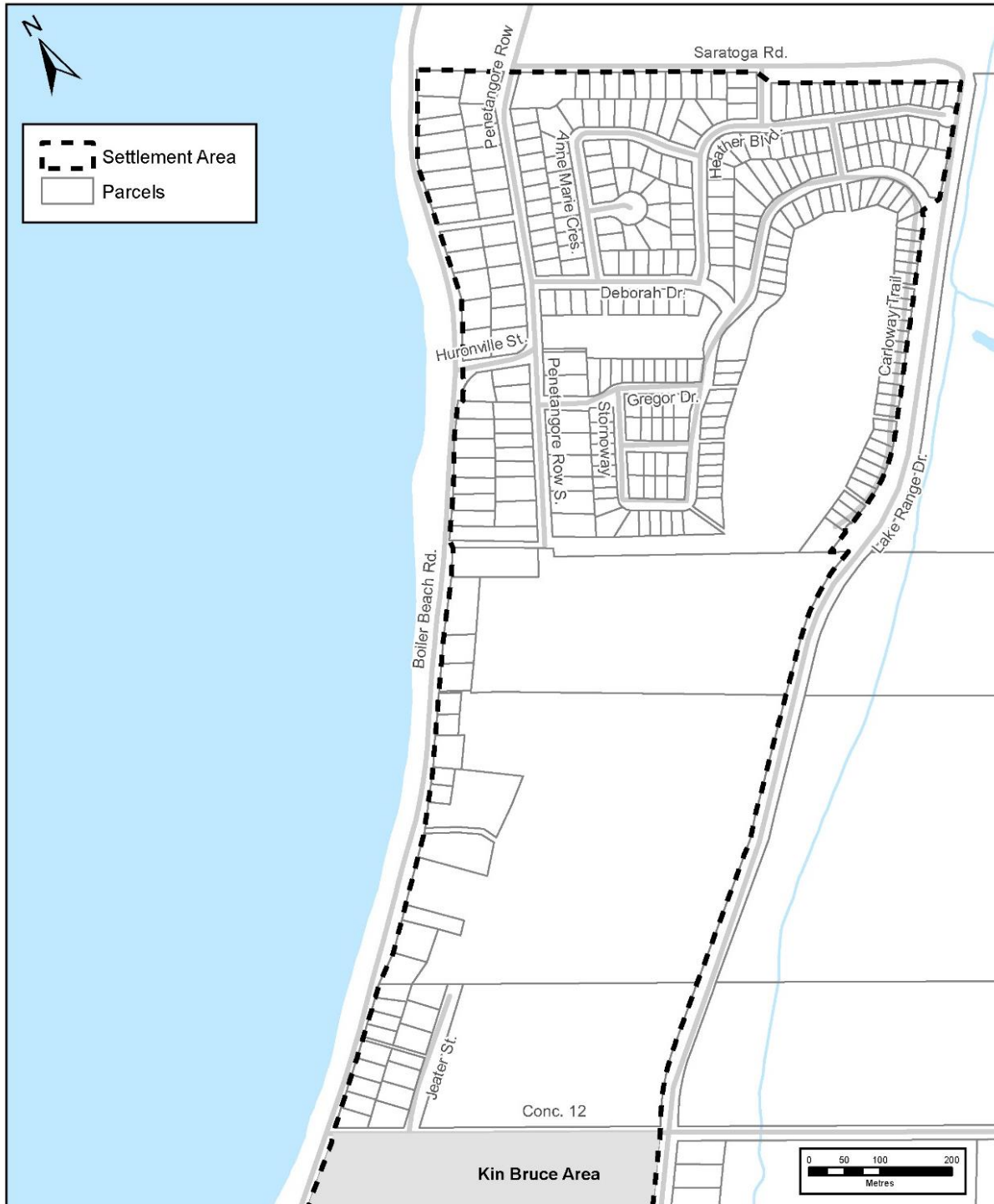

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH Heritage Heights, Kin Bruce and South Boiler Beach		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:10,000	FIGURE No. 1.6b

Figure 1.6C Lakeshore North – Inverlyn Lake/Huronville and Boiler Beach (north)



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH Inverlyn, Huronville and North Boiler Beach	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:7,500	FIGURE No. 1.6c

2.0 INVENTORY OF LAND USES, OCCUPANCY AND HISTORIC SETTLEMENT PATTERNS

For each of the study areas, the existing land uses were inventoried into categories on a lot by lot basis. The classification categories used in the inventory are summarized in Table 2.1. The inventory is based on information derived from existing GIS databases, assessment rolls, the Huron-Kinloss Community Septic Inspection database, and field verifications where possible. The lots were classified based on the use of the majority of the property.

Table 2.1 Categories of Land Uses Used to Inventory Properties

Category	Description
Residential	Includes lots with single and semi-detached residential units; and non-institutional multi-unit residences
Commercial/Industrial	Commercial and industrial uses, including commercial buildings with upper floor residences
Agricultural	Lands with urban settlement areas currently utilized for agricultural purposes
Municipal	Municipally owned recreation facilities, libraries; parks, municipally owned cemeteries, municipally-owned lands; sewage treatment facilities; municipally-owned buildings; public works facilities; parks and trails; easements
Recreation	Privately owned campgrounds and recreation facilities
Developed – Other	Institutional uses; retirement residences; nursing homes; Legions; Lands utilized for private infrastructure; harbour lands; privately owned cemeteries; aggregate operations; lands associated with adjacent residences (e.g. laneway, shed or garage on property adjacent to the residence)
Vacant – Future Residential	Vacant lots zoned for future residential purposes
Vacant – Commercial	Vacant lots zoned for future commercial purposes
Vacant - Constrained	Vacant lots that may be unsuitable for residential development based on zoning or environmental factors; lots that do not have access to a roadway (i.e. are landlocked); or lots that would require the completion of studies or other steps prior to development.

This inventory provides an understanding of the current range of and patterns of land use types. Through the inventory process, the currently supply of vacant lands was also determined and assessed. Vacant lands in the settlement areas have been identified as either ‘Vacant Residential’, ‘Vacant Commercial’, or ‘Vacant Constrained’. Vacant residential lots include existing infill lots and lots of record created as part of Plan of Subdivision (such as the McTavish development in Ripley). Constrained vacant lots were identified as having some factor that would make the property more challenging to develop. These constraints include environmental factors such as hazard lands, significant woodlands, flood fringe areas, and other factors such as a lack of road access. For these lots it is important to note that while future residential development may be possible, it is expected that additional studies or rezoning would be required prior to development.

In addition to building an understanding of the land uses types within the Township, the occupancy of current residential units was also assessed. For the purposes of this report, occupancy is considered in terms of seasonal and permanent residency. Seasonally occupied cottages and homes have long existing along the lakeshore; however, in the past it has been difficult to determine the number of these types of residences and track changes in occupancy (e.g. cottages becoming full-time residences). The current occupancy levels along the lakeshore were compared against the occupancy reported in the 1997 Risk Assessment Study for Continued Development on Septic System in the Lakeshore Area.

The Township consists of multiple settlement areas and rates of new development vary between the distinct areas. To build an understanding of future needs, it is important to assess the historic patterns of development throughout the Township. Using building permit data for new residential development, building patterns over the last 20 years have been evaluated. This examination is intended to serve future planning studies that will forecast additional settlement area land needs and patterns of development.

2.1 Existing Land Uses – Lucknow

The Lucknow Settlement Area generally includes the lands north of Campbell Street (County Road 86), along Stauffer Street (Bruce Road 1) and Havelock Streets and from the western village limit east to Torrence Street. The southern extent of the urban area within the jurisdiction of Huron-Kinloss is bounded by the boundary with ACW, south of Canning Street. Commercial development in the community is concentrated along Campbell Street; however, there are some industrial and commercial land uses north and south of Campbell Street. There are several industrial and commercial land uses along Huron County Road 1 (Lucknow Line), south of the urban boundary of Lucknow. These land uses, such as Greenhill Cemetery, Huron Landscaping and Lucknow Co-op, are often associated with Lucknow despite being in ACW.

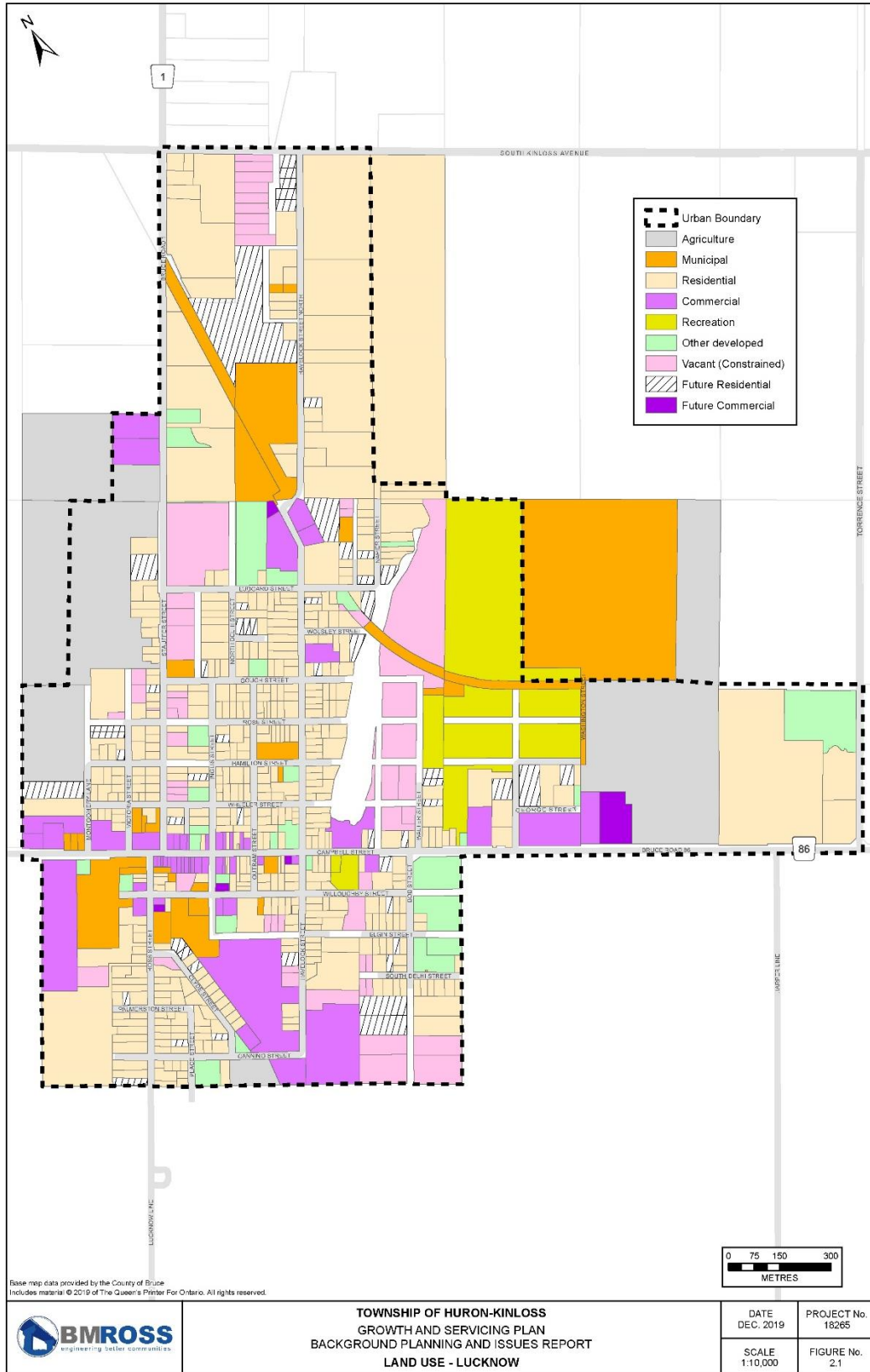
A total of 705 lots were inventoried within the urban boundary of Lucknow (see Figure 2.1). The dominant land use in the community is residential. Table 2.2 summarizes the number of lots per land use type in the community and overall proportion of each land use type.

Table 2.2 Summary of Land Uses in Lucknow

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	474	67.2
Future Residential	53	7.5
Commercial	55	7.8
Vacant – Constrained	50	7.1
Municipal	30	4.3
Developed – Other	28	4.0
Agriculture	5	0.7
Future Commercial	5	0.7
Recreation	5	0.7
Total	705	100

Lucknow is the largest primary settlement area in the Township, both in terms of residential and non-residential development. Approximately 67% of the land use in Lucknow is made up of existing residential development. This includes a range of housing types, including single

Figure 2.1 Land Use Inventory - Lucknow



detached units and multi-unit style residences. From the land inventory, there are a significant number of future residential lots available within Lucknow.

These infill lots are spread throughout the community. It is noted that the lots at the south end of Bob Street were considered future residential as there is currently an Environmental Assessment underway for the extension of the road and services in the unopened section of Bob Street. It should be noted that municipal services do not extend north of Ludgard Street at Stauffer Street and north of the soccer fields on Havelock Street.

Much of the commercial land uses in the village are located along Campbell Street. The large area of commercial development in the south part of the village is the Snobelen Grain Elevator.

Commercial and industrial land uses account for 7.8% of existing development in Lucknow, followed by 7.1% lands being vacant but constrained. In Lucknow, many of these lots are constrained by hazard or environmental protection zoning, resulting from the flood hazards associated with the creeks that flow through the community and area around the former mill pond. The east side of Stauffer Street and the east side of the mill pond (west of Walter Street), are undeveloped as a result of flooding hazards.

There is a large area of land where the use has been identified as recreational. This area, northeast of Walter Street, is currently utilized for hosting the annual Music in the Fields festival. During the festival, these lands are used as a campground and venue. During the remainder of the year, they are vacant.

2.2 Existing Land Uses – Ripley

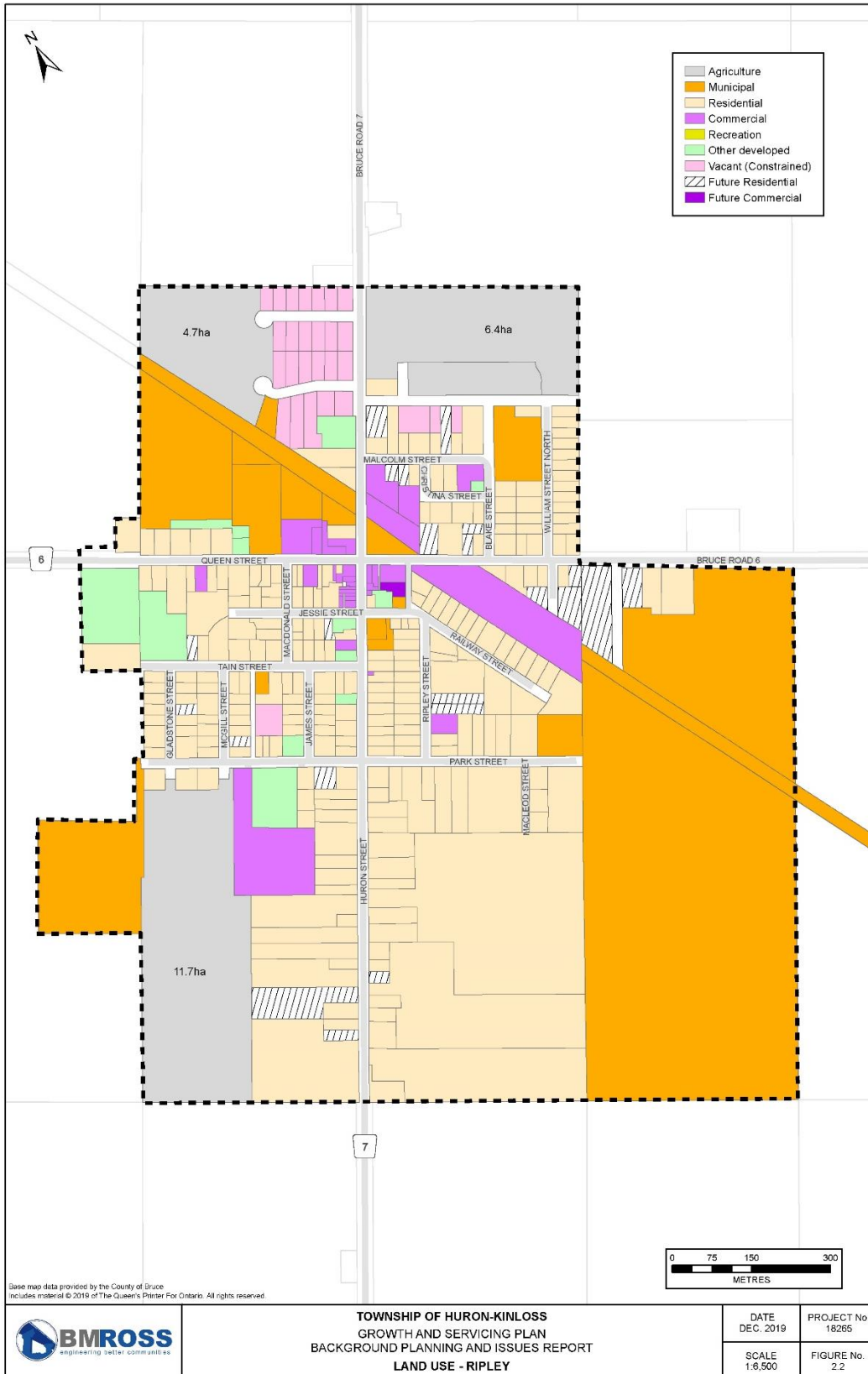
Ripley is a smaller urban area, located in the centre of the former Township of Huron. The village extends east and west along Queen Street (Bruce Road 6) and north and south along Huron Street (Bruce Road 7) as shown in Figure 2.2. Similar to Lucknow, it is primarily a residential community, with a small commercial core centered around the intersection of Huron and Queen streets. The community is relatively compact and arranged following a grid pattern. The current land uses in Ripley are summarized in the following table (Table 2.3):

Table 2.3 Summary of Land Uses in Ripley

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	255	69.1
Commercial	29	7.9
Vacant - Constrained	28	7.6
Future Residential	22	6.0
Municipal	17	4.6
Developed – Other	13	3.5
Agriculture	4	1.1
Future Commercial	1	0.3
Total	369	100

Similar to Lucknow, the majority of lots (approximately 69%) are currently utilized for residential development. There are 22 vacant parcels for future residential development. These lots are scattered throughout the community. The number of vacant constrained lots (28) includes lots in

Figure 2.2 Land Use Inventory - Ripley



the north end of Ripley associated with the McTavish subdivision and along the south side of the unopened Finlay Street road allowance. These lots are currently considered constrained as they are not accessible by road. Similarly, there is a lot located in the centre of the block formed by Tain, James, Park and McGill streets, that is landlocked and is not accessible from a municipal road.

The next largest category of land use is commercial (7.9%). The commercial inventory includes existing commercial uses, such as the Royal Bank, Hurontel, Queen Street Variety, Mini-Mart, and Fig Studio Restaurant. It also includes vacant commercial buildings, such as the former Courtney Grain and Seed and the recently demolished commercial building on the southeast corner of Queen Street and Huron Street. Along Huron Street, south of Queen Street, there are several vacant store fronts. The buildings on the west side of Huron Street also have upper floor residential units.

The northwest quadrant of Ripley is dominated by municipally owned and utilized lands. These large parcels include the Ripley Huron Sports Complex, Township Office, ball diamond and playground and lands utilized for the Ripley Fall Fair. There is also a large parcel of municipal land along the eastern boundary of the village. This lot includes a future Industrial Park and south of the former railroad track, the sewage lagoons. The large parcel on the west side of Ripley identified as 'municipal' is the Ripley cemetery.

Land uses inventories as 'Developed-Other' include an elementary school, churches, curling club, post office, Legion, telecommunications building, Agricultural Society storage building, and a retirement residence.

There are also lands within the urban boundary of Ripley that are currently used for agricultural production. These areas include the lands north of the arena, north of Finlay Street, and east of the cemetery. While these lands are zoned for future residential and non-residential uses, they have been identified in this inventory as agricultural to reflect their current use.

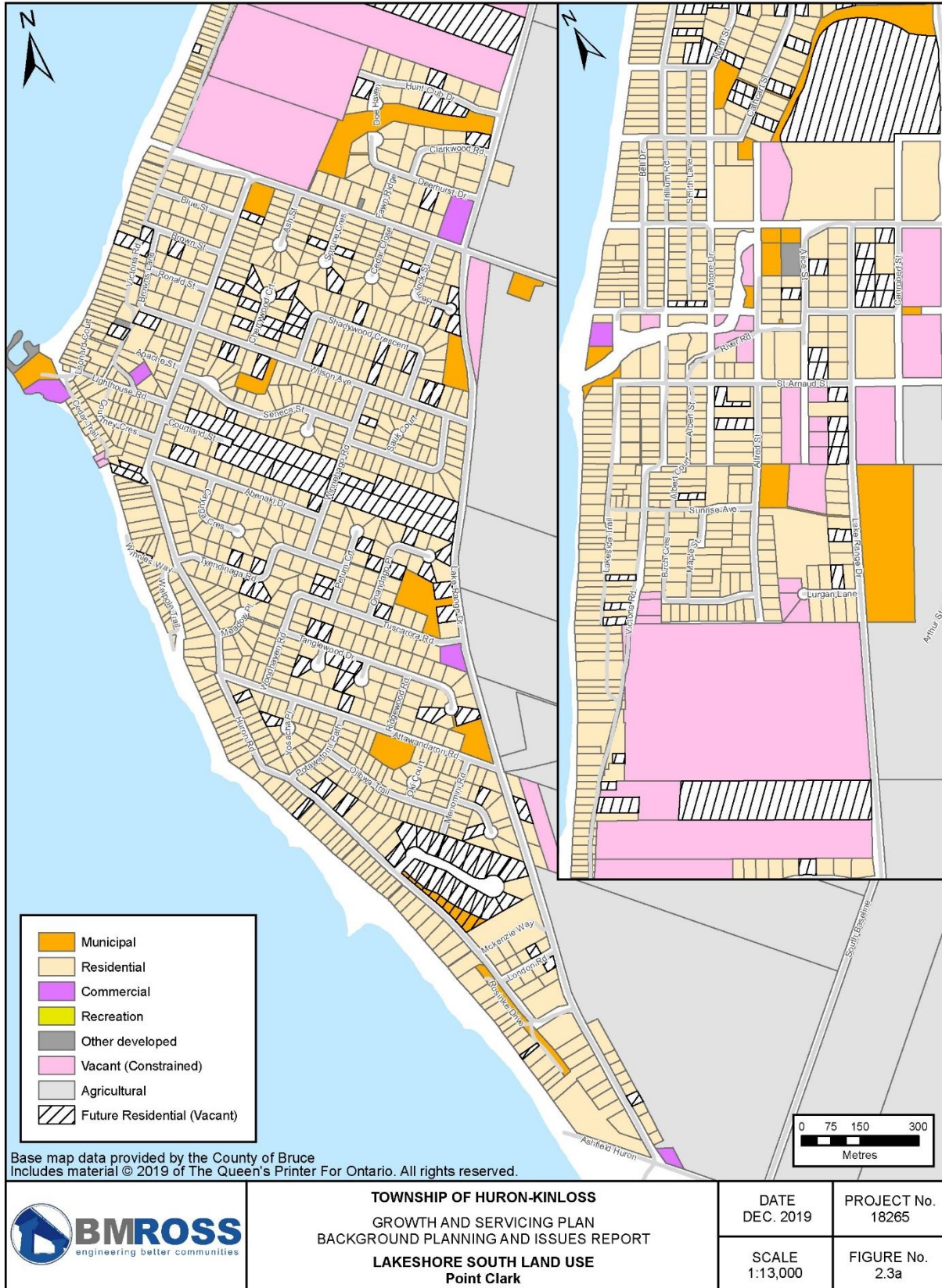
2.3 Existing Land Uses – Lakeshore South

2.3.1 Point Clark

Point Clark is the southern-most community along the Lakeshore in Huron-Kinloss. The area known as Point Clark includes the lands north of the Ashfield-Huron Boundary and south of the Pine River, and west of Lake Range Drive. Point Clark is the largest shoreline area in terms of area, as it includes the widest stretch of land between Lake Huron and the bluff along the lakeshore that runs the entire length of Huron-Kinloss. Given the larger availability of space, Point Clark has the highest number of properties of the different lakeshore communities. Point Clark is a semi-urban community, with both permanent and seasonal residents. The community does not follow any specific road pattern, like the grid-based arrangement of lots and roads in Ripley and Lucknow. The irregular pattern of roads and lots is likely the result of historic development as a cottage area with cottage roads constructed as necessary. Lake Range Drive and Huron Road are the main roads in the community. Many local roads in Point Clark end in cul-de-sacs.

There are approximately 1,283 existing lots in Point Clark. Table 2.4 summarizes the current inventory of land uses in Point Clark. Land uses in the area are almost exclusively residential or vacant lands. There are over 1,000 residentially developed properties, equating to approximately 85% of the total lots in Point Clark (see Figure 2.3A). In terms of amount of

Figure 2.3A Land Use Inventory – Lakeshore South, Point Clark



residential development, Point Clark has the most residences in the Township of any area. A significant number of the residences; however, are seasonally occupied. The proportion of residences that are used for cottages is further discussed in Section 2.5.

Vacant residential properties account for approximately 10% of the lots in Point Clark, which equates to 137 lots. It is worth noting that these lots vary in size from infill lots to larger parcels with the potential to be subdivided. There are 28 properties identified as vacant but with development constraints. Similar to the other vacant properties, some of these properties are large blocks where others are infill lots. The constraints to development generally relate to the presence of significant woodlands.

Table 2.4 Inventory of Land Uses in Point Clark

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	1,087	84.7
Vacant	137	10.7
Vacant – Constrained	28	2.2
Municipal	22	1.7
Commercial	5	0.4
Developed – Other	4	0.3
Total	1,283	100

The community does not have a commercial core or ‘downtown’ area and has very limited existing commercial development. The land use inventory accounts for 5 commercial properties in Point Clark: a construction company office and yard, realty office, restaurant, ice-cream store, and the Point Clark Lighthouse. There are several municipally owned properties in Point Clark. These land uses include parks, trails, the Point Clark Community Centre, and municipal utility facilities. Land uses classified as ‘Developed-Other’ include a church, cemetery, marina and a property with a driveway and garage associated with an adjacent property.

2.3.2 Lurgan Beach

Lurgan Beach is the area located between Pine River, north of Point Clark, and Bell Drive. It is bounded to the west by Lake Huron and to the east by Lake Range Drive. Similar to Point Clark, this area has historically been a cottage area with some permanent residences. In Lurgan Beach, there are 186 properties that are residential, municipally owned, commercial or vacant. The summary of the land uses in Lurgan Beach is presented in Table 2.5.

Table 2.5 Inventory of Land Uses in Lurgan Beach

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	157	84.4
Vacant	18	9.7
Municipal	7	3.8
Vacant – Constrained	3	1.6
Commercial	1	0.5
Total	186	100

Much like Point Clark, Lurgan Beach is primarily a residential community with 84% of the properties developed with either a permanent or seasonal home (see Figure 2.3B). There are a few vacant residential lots (18) and a number of municipally owned properties. The municipally owned properties include a park, municipal well site, easements and hazard lands along the Pine River. The single commercial property in Lurgan Beach is the site of the clubhouse for the Pine River Boat Club.

2.3.3 Blairs Grove

North of Lurgan Beach is a subdivision known as Blairs Grove. It includes the lands north of Bell Drive and south of Concession 6. It includes Green Brae Crescent, Vozka Drive, Gordon Street, and Blairs Trail. Compared to Lurgan Beach and Point Clark, properties in Blairs Grove tend to be larger. There is extensive residential development along the shoreline (Vozka Drive), where the lots are generally narrow and deep. In total, there are 241 properties within Blairs Grove. The inventory of land uses is summarized in Table 2.6.

Table 2.6 Inventory of Land Uses in Blairs Grove

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	193	80.1
Vacant	37	15.4
Municipal	6	2.5
Vacant – Constrained	5	2.1
Total	241	100

The primary land use in Blairs Grove is residential, with 193 properties occupied either seasonally or permanently (see Figure 2.3C). Compared to Lurgan, a larger percentage of the total number of properties are available for future residential development (15.4% or 37 lots). These lots are found throughout Blairs Grove, including two vacant lakefront properties. Between Bell Drive and Green Brae Crescent, there is a large municipal property. This property is a sensitive environmental area and is utilized as parkland. At the north end of Blairs Grove, the municipally owned land is Pearl Elizabeth Park, a small open-space park. The remaining municipal lands are easements and the bluff lands west of Lake Range Drive. North of Pine Street, Birch Street and Emmerton Place is a large single vacant lot. The majority of this lot contains a significant woodland.

2.4 Existing Land Uses – Lakeshore North

2.4.1 Bruce Beach

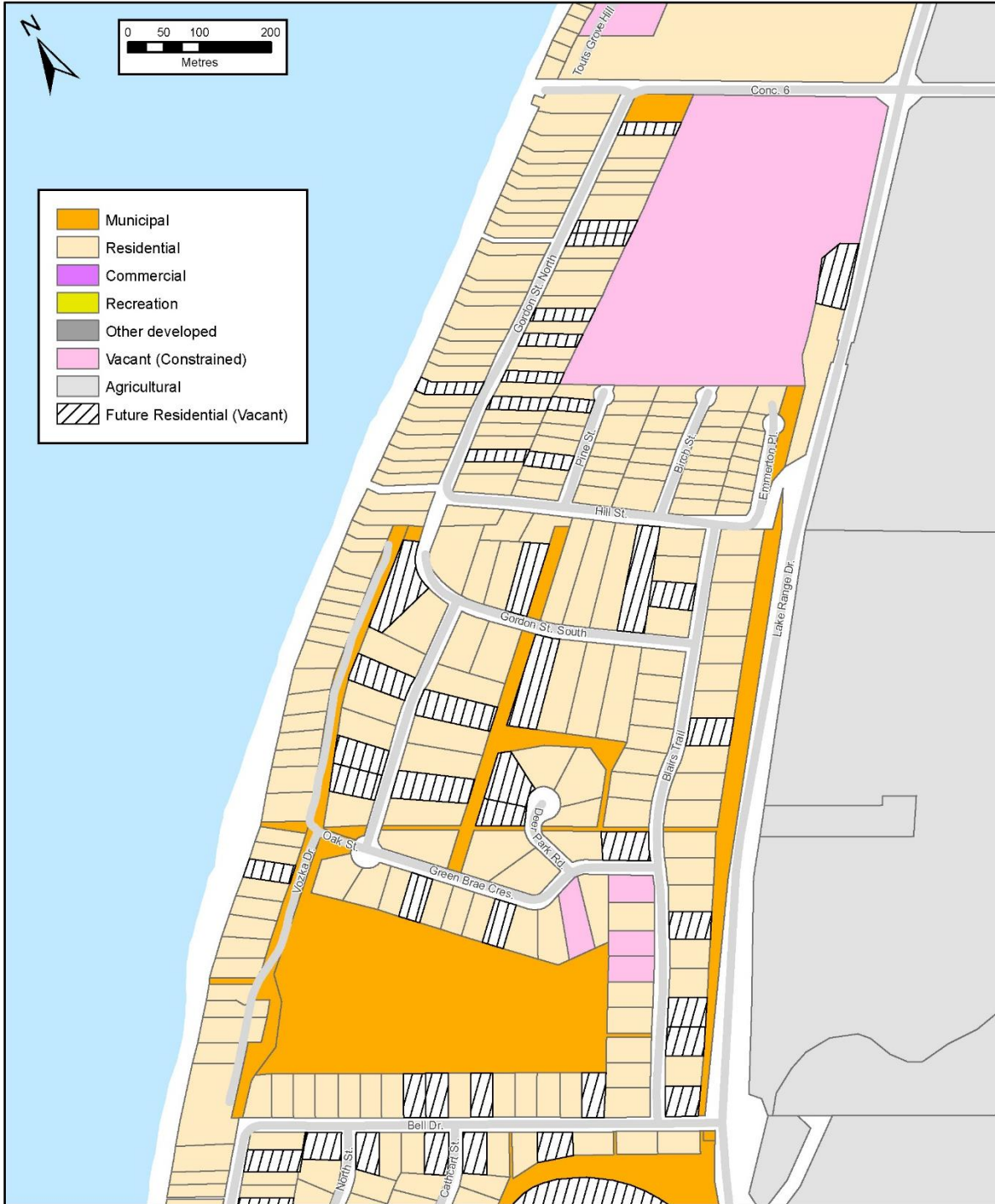
Bruce Beach is the narrow strip of land between Lake Huron and Lake Range Drive, between Concession 6 and Concession 10. Generally, in this area of the Lakeshore, there is a single row of development along the lakefront and then another on top of the bluff along Lake Range Drive. Access to the lakefront lots south of Concession 8 is provided by private roads, while to the north, access is provided by a municipal road (Bruce Beach Road). South of Concession 10, there is a second row of residential development along Highland Drive. Like the other Lakeshore communities, the area is primarily a residential area with limited other land uses. The current land uses are outlined in Table 2.7.

Figure 2.3B Land Use Inventory – Lakeshore South, Lurgan Beach



	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH LAND USE Lurgan		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:5,500	FIGURE No. 2.3b

Figure 2.3C Land Use Inventory – Lakeshore South, Blairs Grove



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH LAND USE Blairs Grove	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:7,500	FIGURE No. 2.3c

Table 2.7 Inventory of Land Uses in Bruce Beach

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	314	88.5
Vacant	19	5.4
Vacant - Constrained	16	4.5
Municipal	5	1.4
Recreation	1	0.3
Total	355	100

Nearly 90% of the 355 properties in the Bruce Beach area are utilized for residences (see Figure 2.4a). This amounts to 314 residential lots and include a mix of seasonal and permanent homes. There are 19 vacant residential lots and almost an equal number of constrained vacant lots. The majority of the vacant residential lands are located along Lake Range Drive. The presence of significant woodlands and the shoreline bluff constrain future residential development in this area. The municipally owned properties in the area are easements or hazard land. The recreation facilities in the area, including a golf course, tennis court and baseball diamond are privately owned.

2.4.2 Heritage Heights

The Heritage Heights area includes the lands north of Concession 10 to Kennedy Road, between Boiler Beach Road and Lake Range Drive. It includes Parkplace, Troy's Trail, Snobelen Trail, Gregs Trail, Kris Street, Boardwalk Street and Heritage Place. The majority of Heritage Heights is located on top of the shoreline bluff. The area developed generally from north to south as a series of subdivisions (e.g. Heritage I to Heritage IV). Lots in this area are relatively large and the majority (85%) are developed for residential use, as shown in Figure 2.4B. There are 197 lots in total in this area, as shown in Table 2.8

Table 2.8 Inventory of Land Uses in Heritage Heights

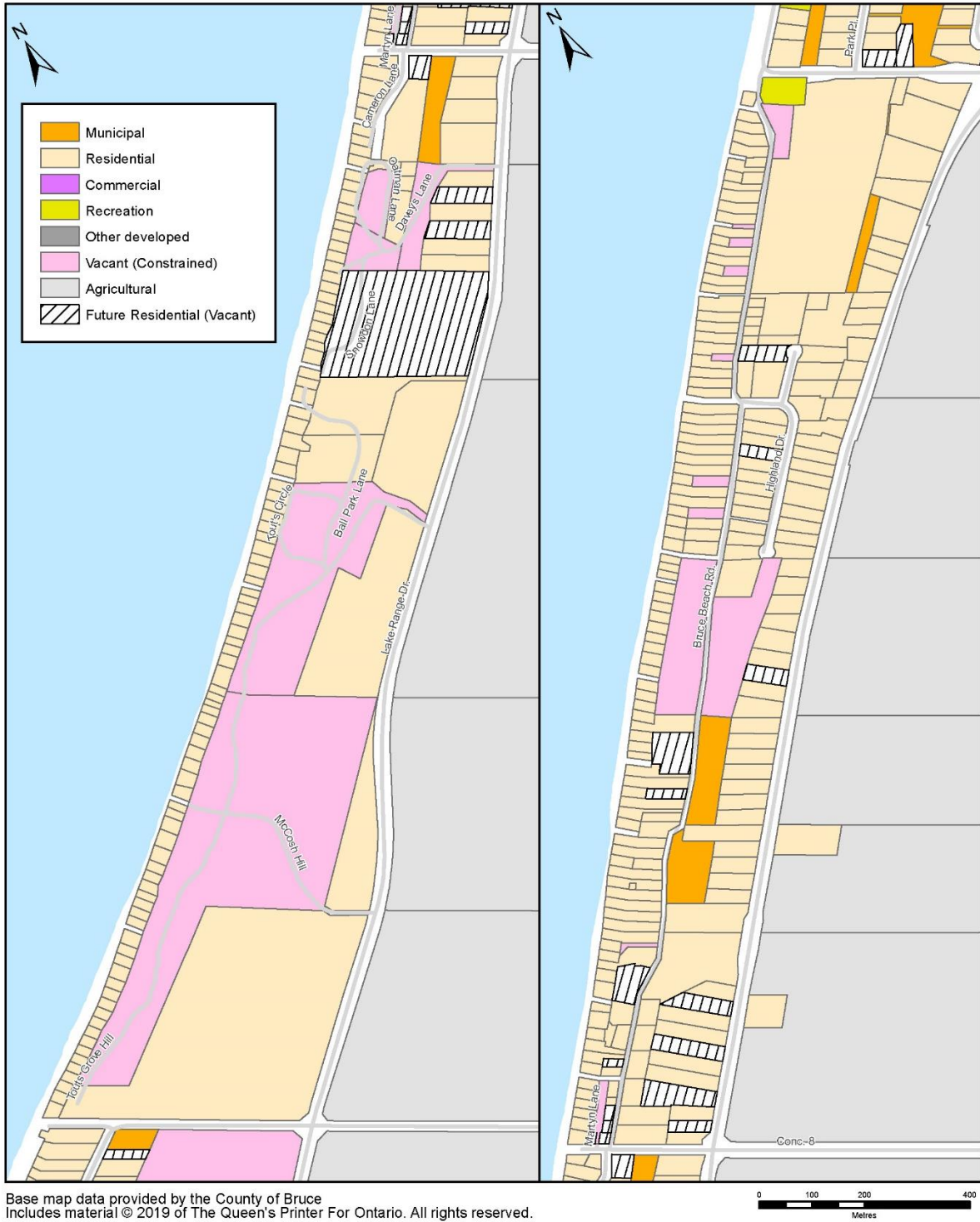
Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	168	85.3
Vacant	20	10.2
Municipal	8	4.1
Commercial	1	0.5
Total	197	100

There are currently 20 vacant residential infill lots available throughout the area. There is a large municipal park between Heritage Drive and Greg's Trail. The other municipal lands in this study area are a municipal well site, or environmental hazard lands. There are two large parcels of land at the north and south end of Heritage Heights. There is a proposed Plan of Subdivision for 77 residential units on the northern lot, identified as 'Crimson Oak'. Currently, there is no development plan for the southern lot.

Similar to the other Lakeshore areas, there is no commercial core or centre in Heritage Heights.

The only identified commercial use in the area is located at the northeast corner of Lake Range Drive and Concession 10.

Figure 2.4A Land Use Inventory - Lakeshore North, Bruce Beach



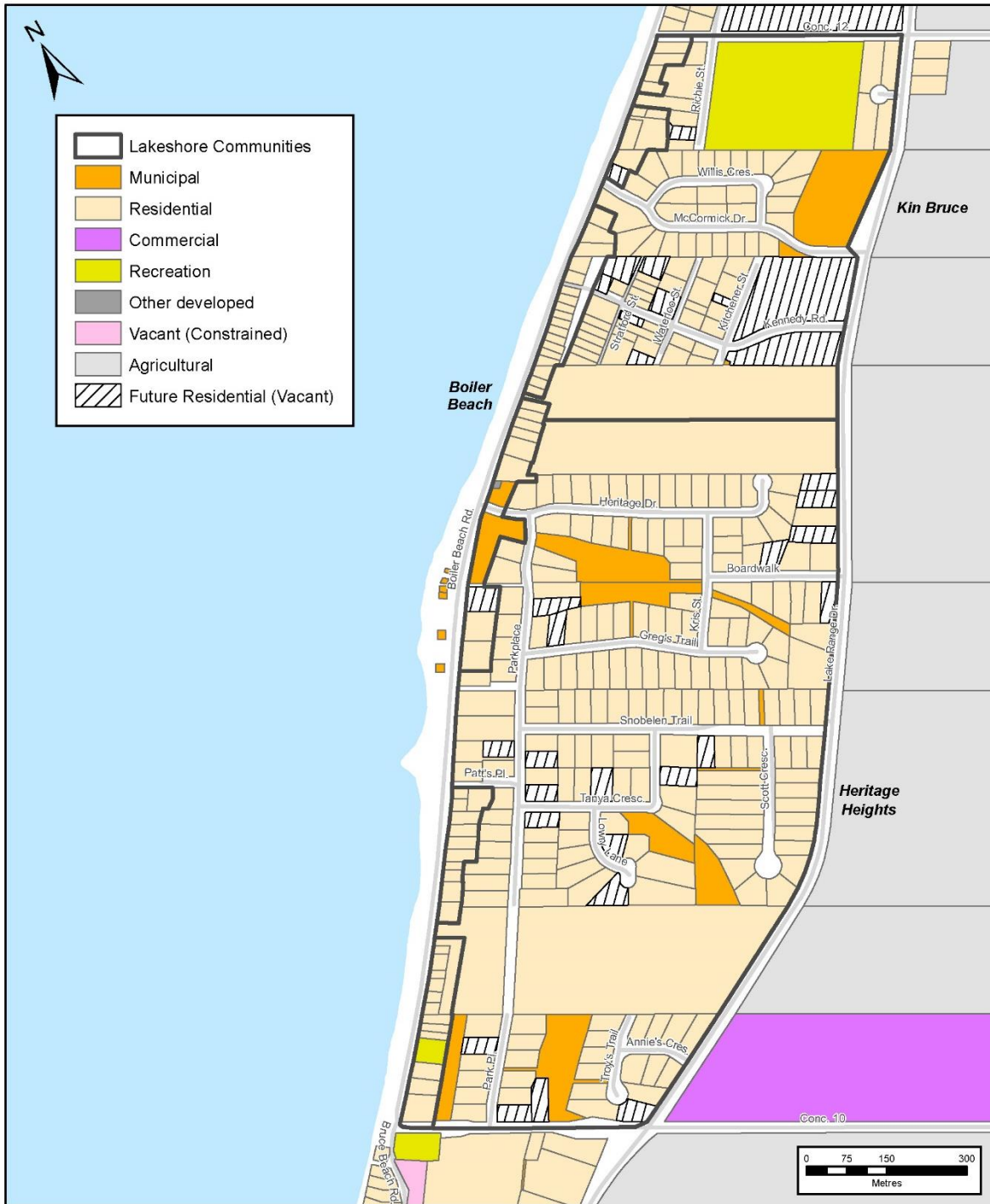
Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.




TOWNSHIP OF HURON-KINLOSS
GROWTH AND SERVICING PLAN
BACKGROUND PLANNING AND ISSUES REPORT
LAKESHORE NORTH LAND USE
Bruce Beach

DATE DEC. 2019	PROJECT No. 18265
SCALE 1:10,000	FIGURE No. 2.4a

Figure 2.4B Land Use Inventory - Lakeshore North, Heritage Heights, Kin-Bruce, Boiler Beach (south)



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT		DATE DEC. 2019	PROJECT No. 18265
	LAKESHORE NORTH LAND USE Heritage Heights, Kin Bruce and South Boiler Beach		SCALE 1:10,000	FIGURE No. 2.4b

2.4.3 Kin-Bruce

This area is a small residential community north of Heritage Heights and south of Concession 12, between Lake Range Drive and Boiler Beach Road. It includes Kennedy Road, Waterloo Street, Stratford Street, McCormick Drive, Willis Crescent and Krystal Court. Like Heritage Heights, this subdivision is located between the top of the shoreline cliff and Lake Range Drive. Compared to the other Lakeshore communities, this area is the smallest in terms of area and number of properties. There are only 77 properties in Kin-Bruce, including 4 located on the east side of Lake Range at the corner of Lake Range Drive (see Figure 2.4B). The inventory of land uses in Kin-Bruce is summarized in Table 2.9

Table 2.9 Inventory of Land Uses in Kin-Bruce

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	63	81.8
Vacant	10	13.0
Municipal	3	4.0
Recreational	1	1.3
Total	77	100

Similar to the other Lakeshore areas, the majority (82%) of the existing land uses in Kin-Bruce are residential. There are only 10 vacant residential lots in the area; including two larger parcels adjacent to Kennedy Road and Lake Range Drive. The remainder are infill lots. There is a municipal ball diamond and park located at the McCormick Drive and Lake Range. The large parcel identified as recreational is a seasonal trailer park. There are no commercial or industrial uses within this area.

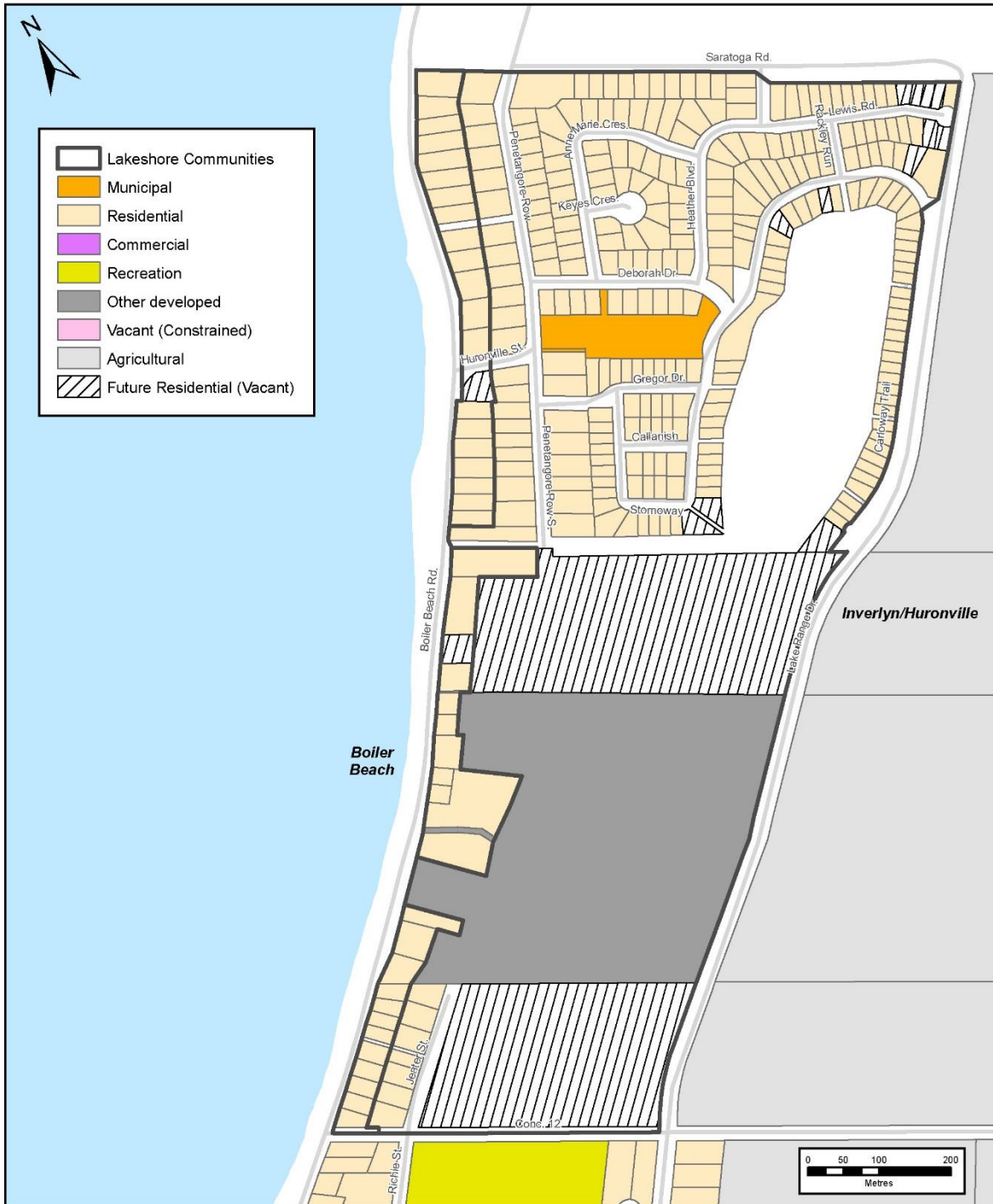
2.4.4 Boiler Beach

This area consists of the single row of properties along the east side of Boiler Beach Road between Concession 10 and Saratoga Road. These properties are separated from Heritage Heights, Kin-Bruce and Inverlyn Lake/Huronville by the lakeshore bluff. Many lots in this area are relatively small, as a result of the limited space between Boiler Beach Road and the hill (see Figure 2.4C). Historically, this area was developed as a cottage area. The northern portion of this area has sanitary sewage service from Kincardine. In total, there are 176 properties in Boiler Beach. The breakdown of land uses is summarized in Table 2.10.

Table 2.10 Inventory of Land Uses in Boiler Beach

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	160	90.9
Municipal	9	5.1
Vacant	4	2.3
Developed – Other	2	1.1
Recreation	1	0.6
Total	176	100

Figure 2.4C Land Use Inventory – Lakeshore North, Inverlyn Lake/Huronville and Boiler Beach (north)



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	<p>TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH LAND USE Inverlyn, Huronville and North Boiler Beach</p>	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:7,500	FIGURE No. 2.4c

Similar to the other Lakeshore areas, the most common land use is residential, with 90% of properties developed for that purposes. There are 9 municipally-owned properties – this includes 6 small, vacant properties on the west side of Boiler Beach Road. There are only 4 vacant properties in this area, including a lot along Richie Street. The Developed – Other uses include a property with a telecommunication building and the gravel pit located south of Inverlyn Lake. There is also a seasonal trailer park.

2.4.5 Inverlyn Lake/Huronville

This area is immediately south of the boundary with the Municipality of Kincardine. It includes the Penetangore Row, Carloway Trail, Deborah Drive and Anne Marie Crescent, among other streets. It includes Inverlyn Lake, a senior recreation community centred around Inverlyn Lake. The area has municipal water and sanitary sewage services from the Municipality of Kincardine. There are 254 properties in Inverlyn Lake and Huronville. Approximately 94% are the properties are residential, with 14 lots currently vacant (see Figure 2.4C). Most of these lots are associated with the Inverlyn community; however, there are two large vacant parcels zoned for residential development, between Inverlyn Lake and Concession 12. Residential development on these lots however is contingent on the existing active gravel pit being closed and remediated. There are two municipally owned properties in the area. One is utilized as a community park (Huronville Park) and the other is a small easement. Table 2.11 shows the land uses in Inverlyn Lake/Huronville.

Table 2.11 Inventory of Land Uses in Inverlyn Lake/Huronville

Land Use Type	No. of Properties	Percentage of Total Lots (%)
Residential	238	93.7
Vacant	14	5.5
Municipal	2	0.8
Total	254	100

2.5 Occupancy

An important aspect of planning and servicing in Huron-Kinloss is the impact of differences in seasonal and permanent occupancy through the Township. Certain areas of the Township, primarily along the lakeshore, have historically and continue to have a significant proportion of residences occupied on a seasonal basis. The number of seasonally occupied homes is not readily available from traditional demographic sources, such as the census program, so understanding and monitoring the changes in patterns can be challenging. For the purposes of this study, occupancy of residential parcels was determined based on property usage information obtained from the Huron-Kinloss Community Septic Inspection Program and tax roll mailing addresses.

The residential properties in Lucknow and Ripley are almost exclusively occupied on a permanent basis. There was one property identified in Lucknow as being a seasonal residence based upon information gathered during the most recent septic inspection.

The Lakeshore area of Huron-Kinloss historically developed as a cottage area, with small unserviced cottages scattered along the lakefront. Point Clark, Lurgan Beach, Bruce Beach and Boiler Beach are examples of areas in the Township of where cottage communities developed.

Over time however, the Lakeshore area has also seen more residents building permanent homes or converting cottages for full-time occupancy. For each community within the Lakeshore area, the numbers of permanent and seasonal properties are summarized in Table 2.12.

Table 2.12 Summary of Permanent and Seasonally Occupied Properties along the Lakeshore

Area	No. of Developed Residential Lots	No. of Lots Occupied on Permanent Basis	No. of Lots Occupied on Seasonal Basis	% of Lots Occupied on Permanent Basis	% of Lots Occupied on Seasonal Basis
Point Clark	1,087	559	528	51.4	48.6
Lurgan Beach	157	50	107	31.8	68.2
Blairs Grove	193	115	78	59.6	40.4
Bruce Beach	314	97	217	30.9	69.1
Heritage Heights	168	165	3	98.2	1.8
Kin-Bruce	63	51	12	81.0	19.0
Boiler Beach	160	114	46	71.3	28.8
Inverlyn Lake / Huronville	238	238	0	100	0
Total	2,380	1,389	991	55.8	44.2

Bruce Beach and Lurgan Beach are the Lakeshore communities with the highest proportion of seasonal residents, with 69.1% and 68.2% respectively. These areas have historically been cottage communities and continue to have many seasonal residences. Many of the cottages are located directly on the lakeshore or within close proximity to it. In Bruce Beach, which has a very strong cottage community, only a small number of the lakefront residences have been converted to or rebuilt as permanent homes. The majority of permanent homes in the Bruce Beach area are found along Lake Range Drive, on top of the bluff. Similarly, in Lurgan Beach the permanently occupied homes are generally concentrated around Cathcart Street and Bell Drive.

Heritage Heights and Inverlyn Lake/Huronville are the areas with the least number of cottages, with 1.8% and 0% of properties identified as being used seasonally. The absence of seasonal homes in these areas is likely a reflection of these communities being separated from the lakeshore by the bluff and a function of being developed more recently through numerous Plans of Subdivision geared towards permanent residents.

Point Clark and Blairs Grove both have long sections of shoreline, along which the majority of lots are still occupied on a seasonal basis. Generally, in both communities many seasonally occupied residences are found closer to the lakeshore while the permanent homes tend to be located closer to Lake Range. In Point Clark, there is a greater number of lakefront properties that are occupied on a permanent basis than in Blairs Grove.

Overall, along the Lakeshore there are 2,380 developed residential lots. A total of 1,389 lots are occupied permanently and 991 are seasonal used. This equates to 55.8% permanent occupancy and 44.2% seasonal occupancy. In order to understand how the patterns in occupancy have changed in recent years, the occupancy status for the lakeshore as determined through the Township of Huron Risk Assessment Study (1997), was consulted.

The Risk Assessment Study divided the Lakeshore into 8 study areas based on legal lots. Unfortunately, the study areas used in the Risk Assessment Study do not directly align with the communities identified and used in this study; however, some comparisons based for certain study areas can still be made. Table 2.13 outlines the study areas as used in this report and in the 1997 Risk Assessment Study.

Table 2.13 2019 Background Planning and Issues Study Areas and Corresponding Study Areas from 1997 Risk Assessment Study

2019 Background Issues Study Report – Study Areas	1997 Risk Assessment Study – Study Areas
Point Clark	Point Clark South (Lots 1-4) Point Clark North (lots 5 -10) Lurgan South (Lots 11-20)
Lurgan Beach	Lurgan South (Lots 11-20) Lurgan North (Lots 21-30)
Blairs Grove	Lurgan North (21-30)
Bruce Beach	Bruce Beach South (Lots 31-40) Bruce Beach North (Lots 41-50)
Heritage Heights	Poplar Beach South (Lots 51-57)
Kin-Bruce	Poplar Beach North (Lots 58-67)
Boiler Beach	Poplar Beach South (Lots 51-57) Poplar Beach North (Lots 58-67)
Inverlyn Lake / Huronville	Not included

In the two Bruce Beach study areas of the 1997 report, the proportion of developed residential lots used on a seasonal basis was 81.3%. Since that time the number of permanent residences in that area has increased so that only 69.1% of residential lots have a seasonal home on them today. The decline in the number of seasonal residences in this area reflects an increase in the number of permanent homes along Lake Range Drive and some, although a relatively minimal number of conversion of cottages to permanent dwellings.

Point Clark as defined in this study, includes the Point Clark South, Point Clark North and a portion of the Lurgan South sub-area from the 1997 Report. At that time, the proportion of seasonally occupied homes in Point Clark was reported at 64% (B. M. Ross and Associates Limited, 1997). Over time, this has decreased to 48.6% as identified from 2019 data. This indicates that there has been a significant number of homes converted from cottages to permanent dwellings in this area. Also, a greater number of new residences built are being built as permanent homes as opposed to cottages.

The Lakeshore South areas, identified in this study as: Point Clark, Lurgan Beach and Blairs Grove; and in the 1997 study as: Point Clark South, Point Clark North, Lurgan South and Lurgan North, can be compared as an aggregate in terms of changes in occupancy. In 1997, the lakeshore south area had approximately 33% of residences occupied permanently and 66% occupied seasonally. In 2019, the occupancy levels are 49.6% seasonal and 50.4% permanent. The change in occupancy is likely the result of more permanent homes in Point Clark as noted above, as well as in Blairs Grove compared to in 1997.

In the Lakeshore North areas (excluding Inverlyn Lake, which was not included in the 1997 report), the proportion of permanent homes was 41% in 1997. In 2019, the number of permanent dwellings has increased to 61%. This increase is the result of additional permanent dwellings in the Heritage Heights area and conversion of cottages to homes along Boiler Beach. The proportion of permanent homes along Boiler Beach is now estimated at 71.3%.

Overall, along the lakeshore, the number of permanent homes has increased since 1997. The 1997 Risk Assessment Report included a table of historical residency data. That table has been included below and updated to show the overall change in occupancy (Table 2.14) (B. M. Ross and Associates Limited, 1997). Note the proportions shown below exclude the properties in Inverlyn Lake/Huronville.

Table 2.14 Proportion of Properties Occupied on Seasonal and Permanent Basis, 1977-2019

Year	Permanent	Seasonal
1977	20.4	79.6
1985	28.6	71.4
1988	26.8	73.2
1991	32.5	67.5
1997	35.5	64.5
2019	53.7	46.3

The proportion of homes occupied on a permanent basis in the Lakeshore has now exceeded the number of seasonal dwellings. It is expected that this trend will continue, especially in areas such as Heritage Heights and Point Clark, where there is opportunity for additional future residential development. In areas like Point Clark, Kin-Bruce and Boiler Beach is also expected that older cottages will continue to be converted into full time residences or removed and replaced with new homes. The continued growth in the local economy resulting in increased demand for housing and demographic shifts (seniors living longer at home, retirement of baby boomers) is likely to support the continued shift away from seasonal occupancy. However, it is anticipated that there will continue to be a proportion of homes that are seasonally occupied along the lakeshore.

2.6 Historic Development Patterns

To evaluate patterns in recent new residential development, building permit data from 2000 to 2019 was obtained from the Township. In total, there have been 547 building permits issued for new residential development throughout the Township in the past 20 years. This equates to an average of 27 new homes per year. Within the study areas considered as part of this study, there have been 479 permits issued for new residential development. The number of permits, broken down by study area in five-year intervals, is provided in Table 2.15.

Table 2.15 Summary of Building Permits Issued for New Residential Development per Area, 2000-2019

Area	2000 – 2004	2005 - 2009	2010 – 2014	2015 – 2019	Total
Point Clark	12	49	16	29	106
Lurgan Beach	2	4	1	4	11
Blairs Grove	8	10	7	8	33
Bruce Beach	5	2	4	10	21
Heritage Heights	13	47	36	6	102

Area	2000 – 2004	2005 - 2009	2010 – 2014	2015 – 2019	Total
Kin-Bruce	1	3	3	0	7
Inverlyn Lake / Huronville	7	26	46	56	135
Boiler Beach	3	1	4	2	10
Ripley	1	15	4	5	25
Lucknow	6	7	9	7	29
Total	58	164	130	127	479

From the above data, approximately 88% of the permits for new residential development were associated with a property in Lucknow, Ripley and the Lakeshore. The remaining 12% were issued for residential development in the rural area of the Township. Figure 2.5 shows the distribution of residential building permits throughout the Huron-Kinloss. The areas with the greatest number of building permits issued in the last twenty years are: Inverlyn Lake/Huronville, Point Clark and Heritage Heights. These three areas account for 63% (343) of the total number of new residential building permits issued. The growth in these areas is attributable to the availability of lots for development, through Plan of Subdivision in Inverlyn Lake/Huronville and Heritage Heights, and infill lots in Point Clark. In Inverlyn Lake/Huronville, the new residential development is associated with the build out of the Inverlyn Lake retirement community (Figure 2.6). Growth in Heritage Heights in the last twenty years has been driven by the availability of lots associated with the Heritage III and Heritage IV Plans of Subdivision (see Figure 2.7). There has also been some infilling in the older, more established areas of Heritage Heights. The residences built in these are large, permanent homes. In Point Clark, as shown in Figure 2.8, the permits are generally associated with infill lots; however, there were several new residential homes built in recent years along Huron Road associated with the Sunset Place development.

New residential development in Lurgan Beach and Blairs Grove has been relatively minimal, accounting for 8% (44) of total new residential permits (see Figures 2.9 and 2.10). These developments reflect infilling of existing lots and the replacement of older cottages with newer dwellings. In Bruce Beach, the new building activity is almost exclusively limited to development along Lake Range Drive, as shown in Figure 2.11. Only six permits have been issued in Kin-Bruce (Figure 2.12) in the last twenty years, for three new residences along Lake Range Drive, two for new lots on Krystal Court and one infill lot. Development of new residences in Boiler Beach in the last twenty years has amounted to 10 new units, built on existing infill lots (Figure 2.13).

Ripley and Lucknow have had a similar number of new residential developments over the past 20 years, with 25 and 29 permits issued respectively. In Ripley, the new permits include multi-unit developments along Park Street, Queen Street and Huron Street. The east end of Railway Street was also developed in the last twenty years (see Figure 2.14). In Lucknow, new residential development has been scattered throughout the community on infill lots, as shown in Figure 2.15. There have been no new developments via Plan of Subdivision in these communities in recent years, which limits the availability of lots for residential development to existing infill lots and any created by consent.

The greater number of available infill lots and lots created through the Plan of Subdivision process is likely a factor in the greater amount of development along the lakeshore. In addition to the availability of lots, the larger size of lots, newer neighbouring housing stock, and proximity to Kincardine and Lake Huron may be factors that have driven growth along the lakeshore compared to the inland communities.

Figure 2.5 Residential Building Permits Issued, 2000-2019

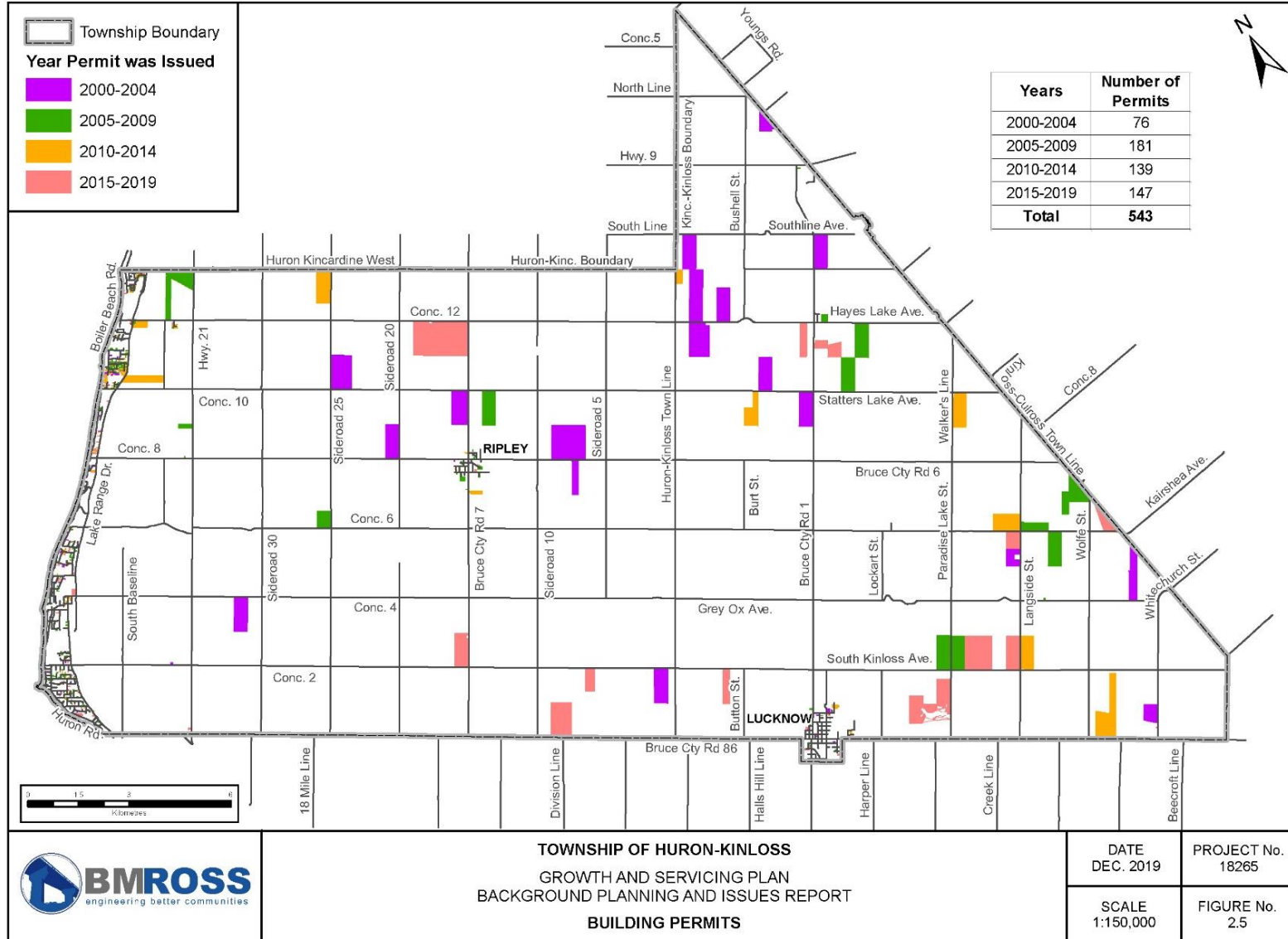


Figure 2.6 Residential Building Permits, Inverlyn Lake/Huronville, 2000-2019

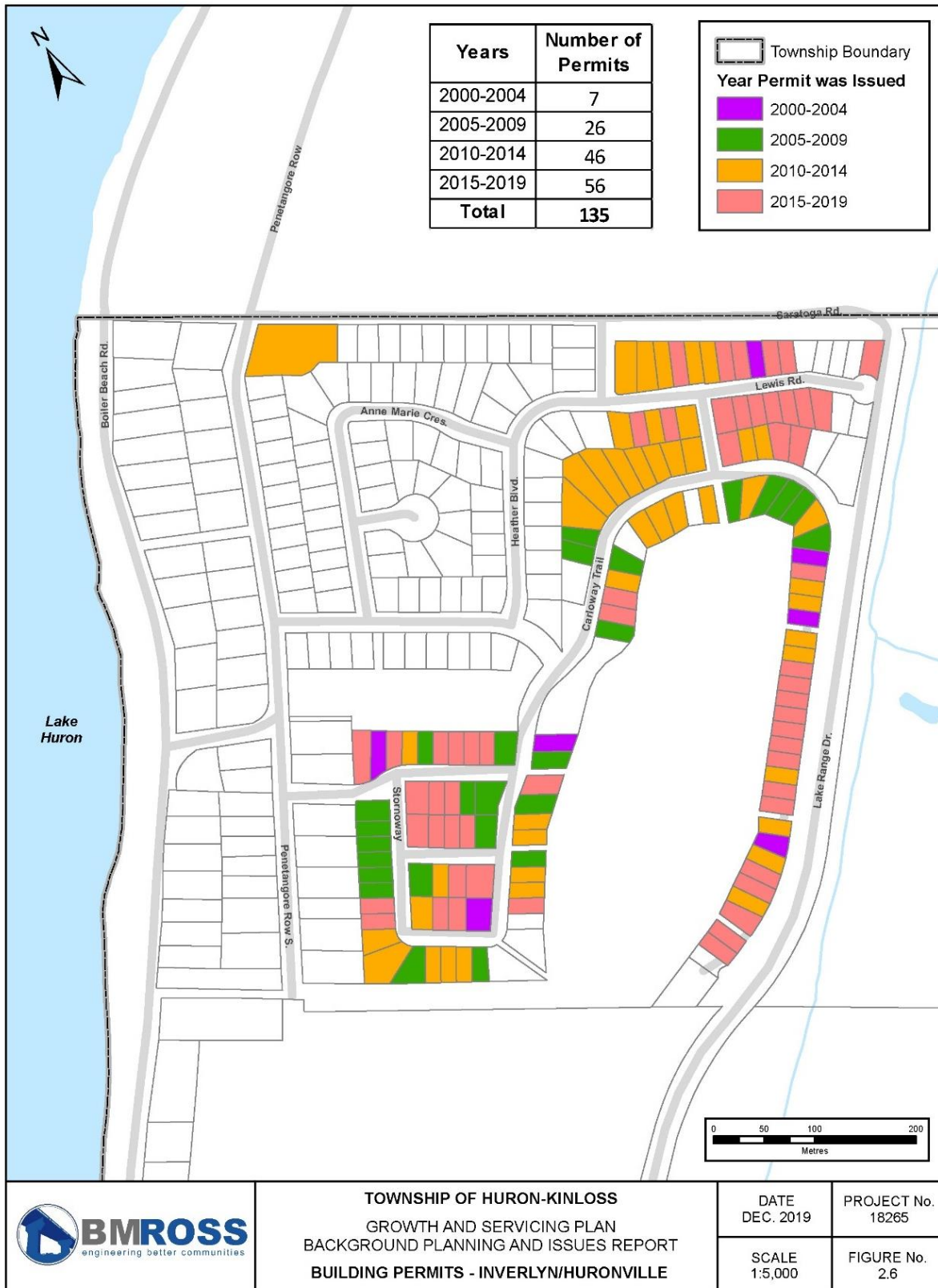


Figure 2.7 Residential Building Permits, Heritage Heights, 2000-2019

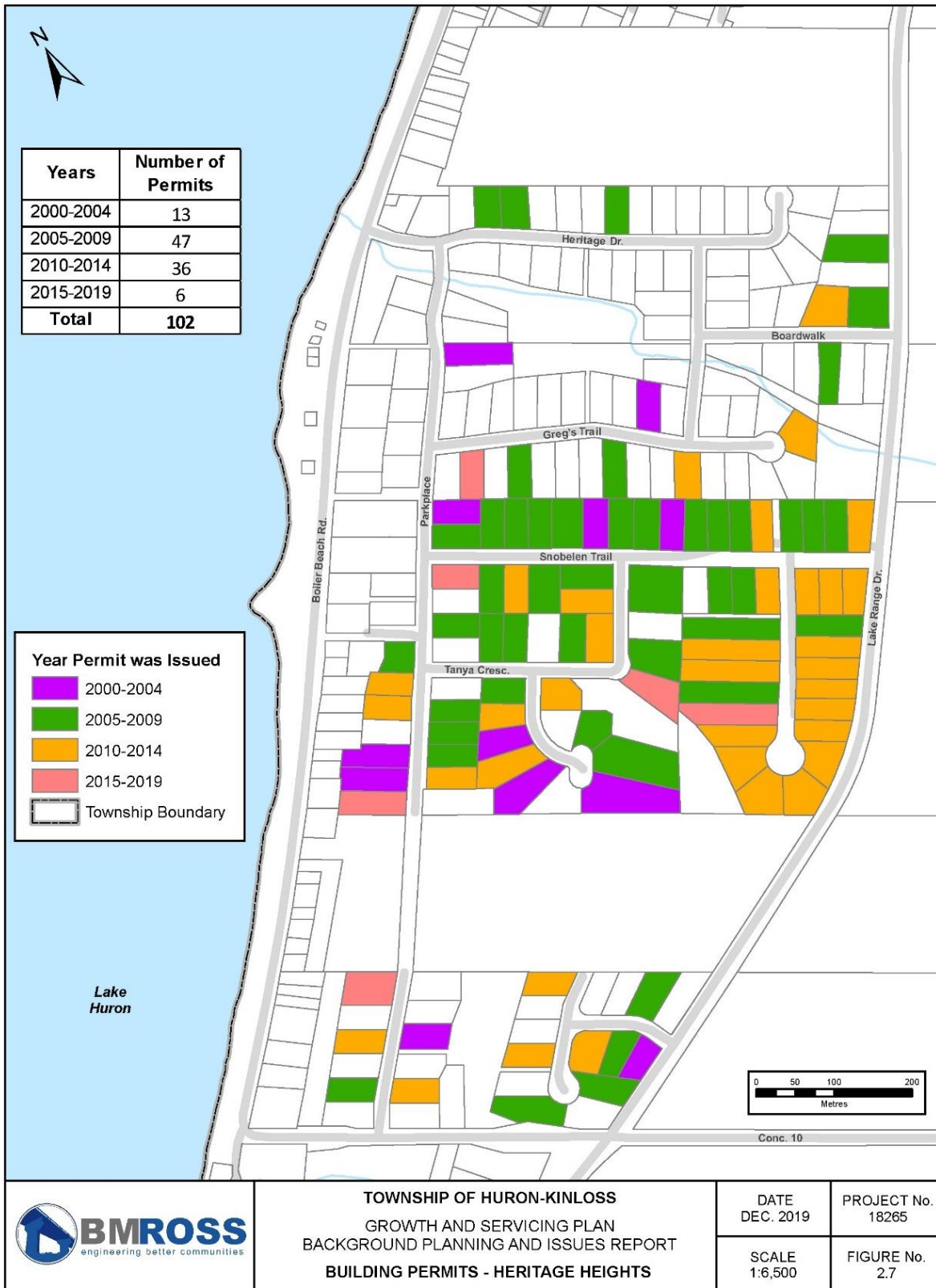


Figure 2.8 Residential Building Permits, Point Clark, 2000-2019

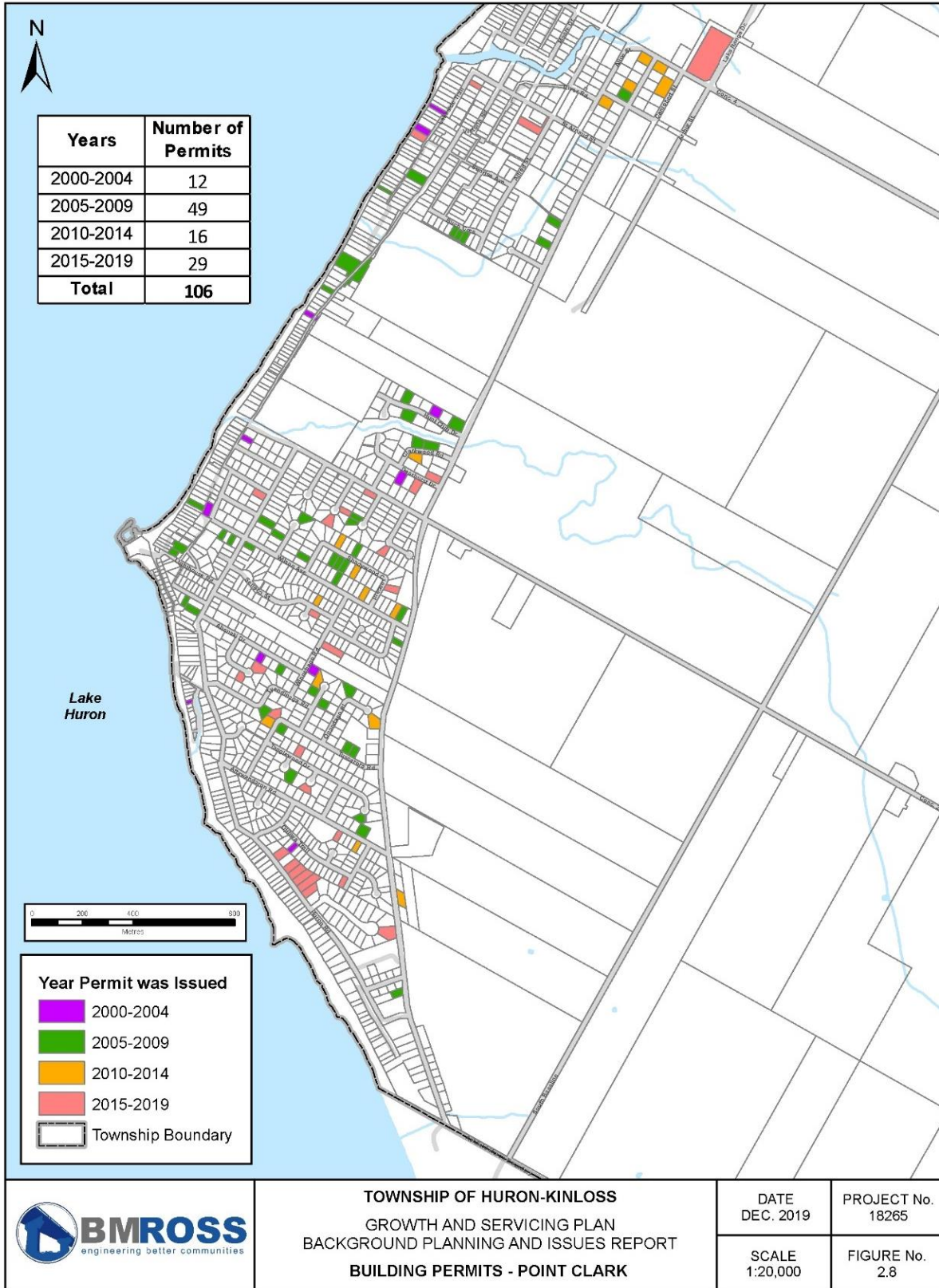


Figure 2.9 Residential Building Permits, Lurgan Beach, 2000-2019

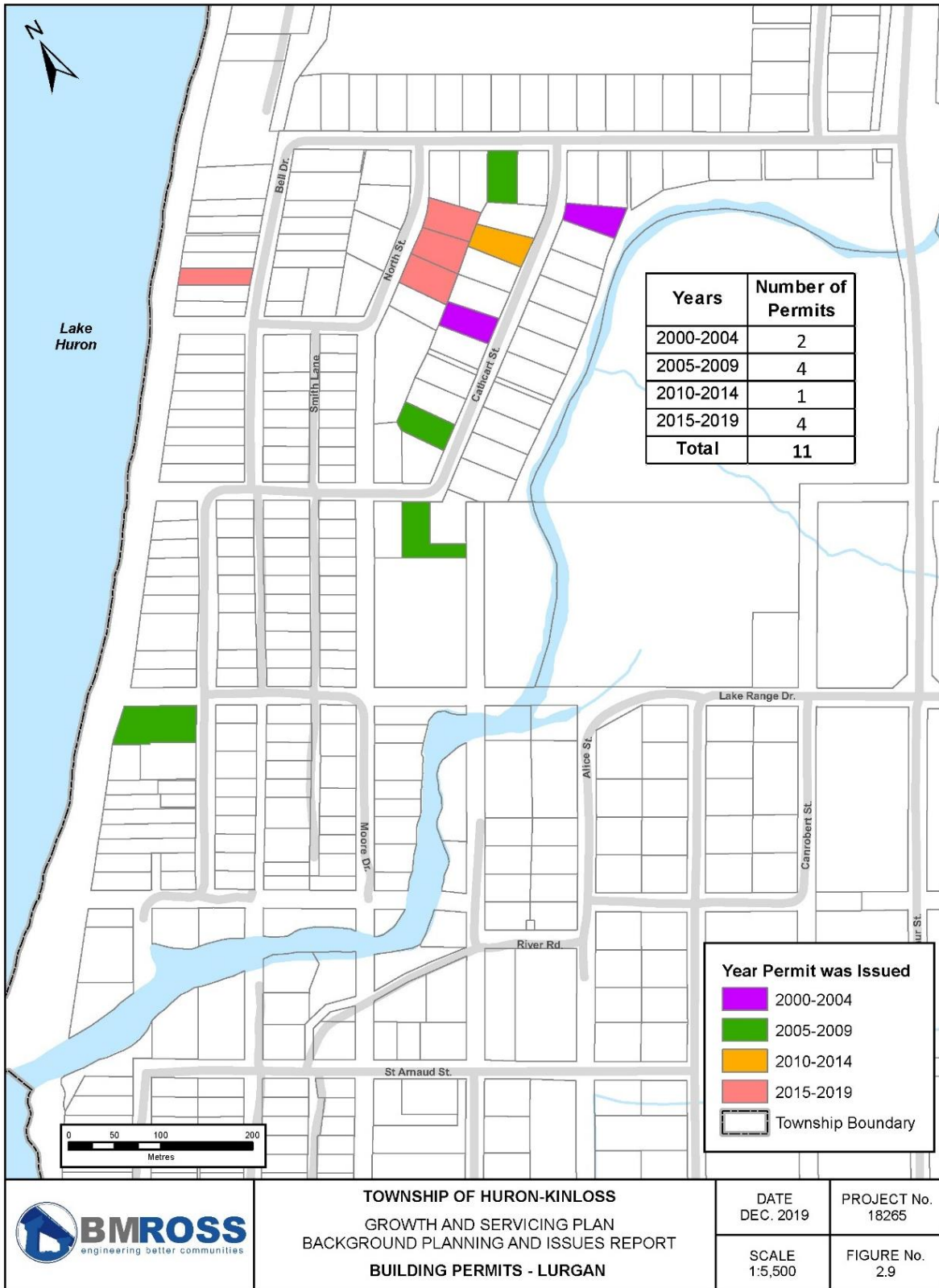
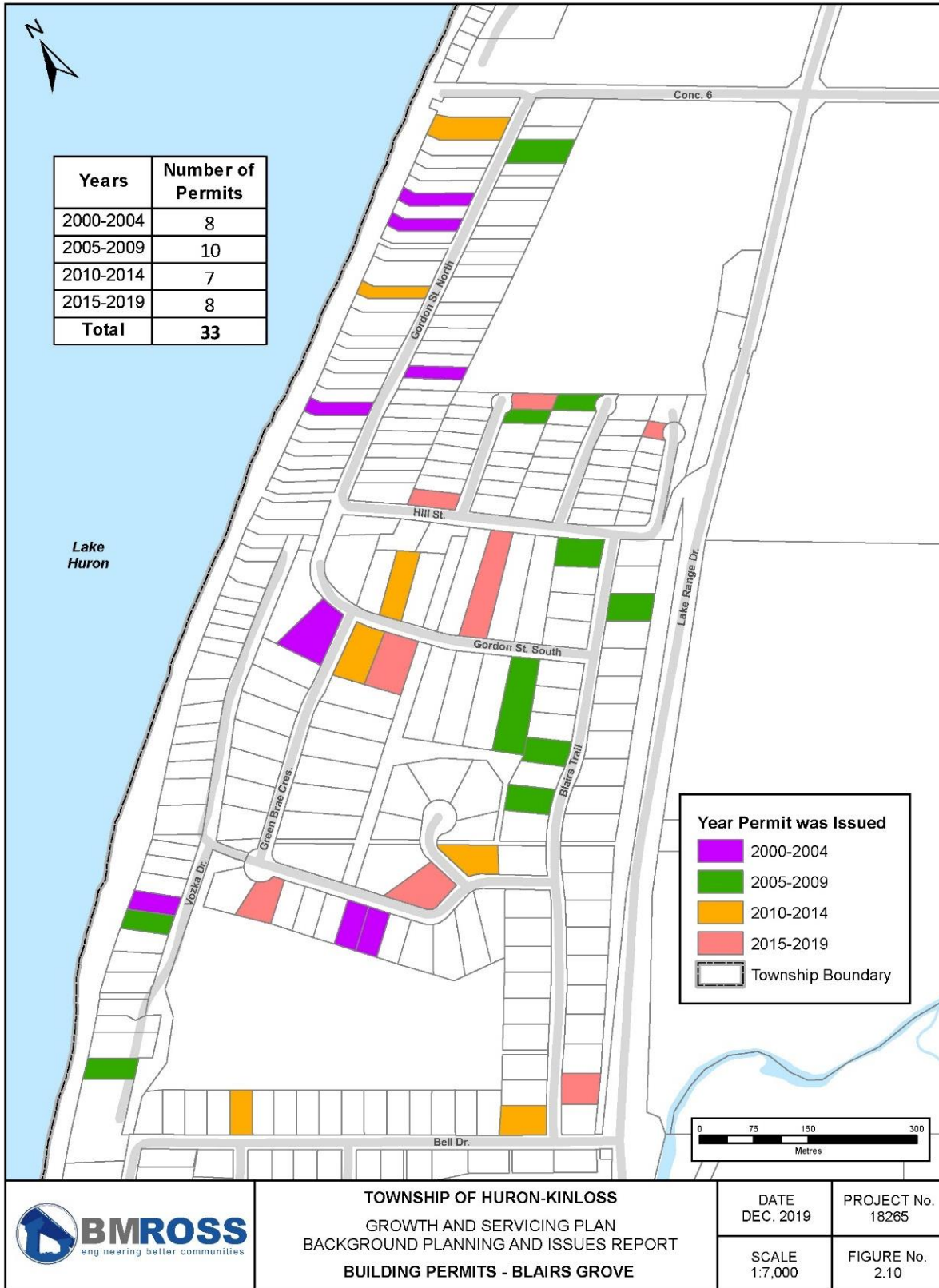


Figure 2.10 Residential Building Permit, Blairs Grove, 2000-2019



TOWNSHIP OF HURON-KINLOSS
 GROWTH AND SERVICING PLAN
 BACKGROUND PLANNING AND ISSUES REPORT
BUILDING PERMITS - BLAIRS GROVE

DATE
DEC. 2019

PROJECT No.
18265

SCALE
1:7,000

FIGURE No.
2.10

Figure 2.11 Residential Building Permits, Bruce Beach, 2000-2019

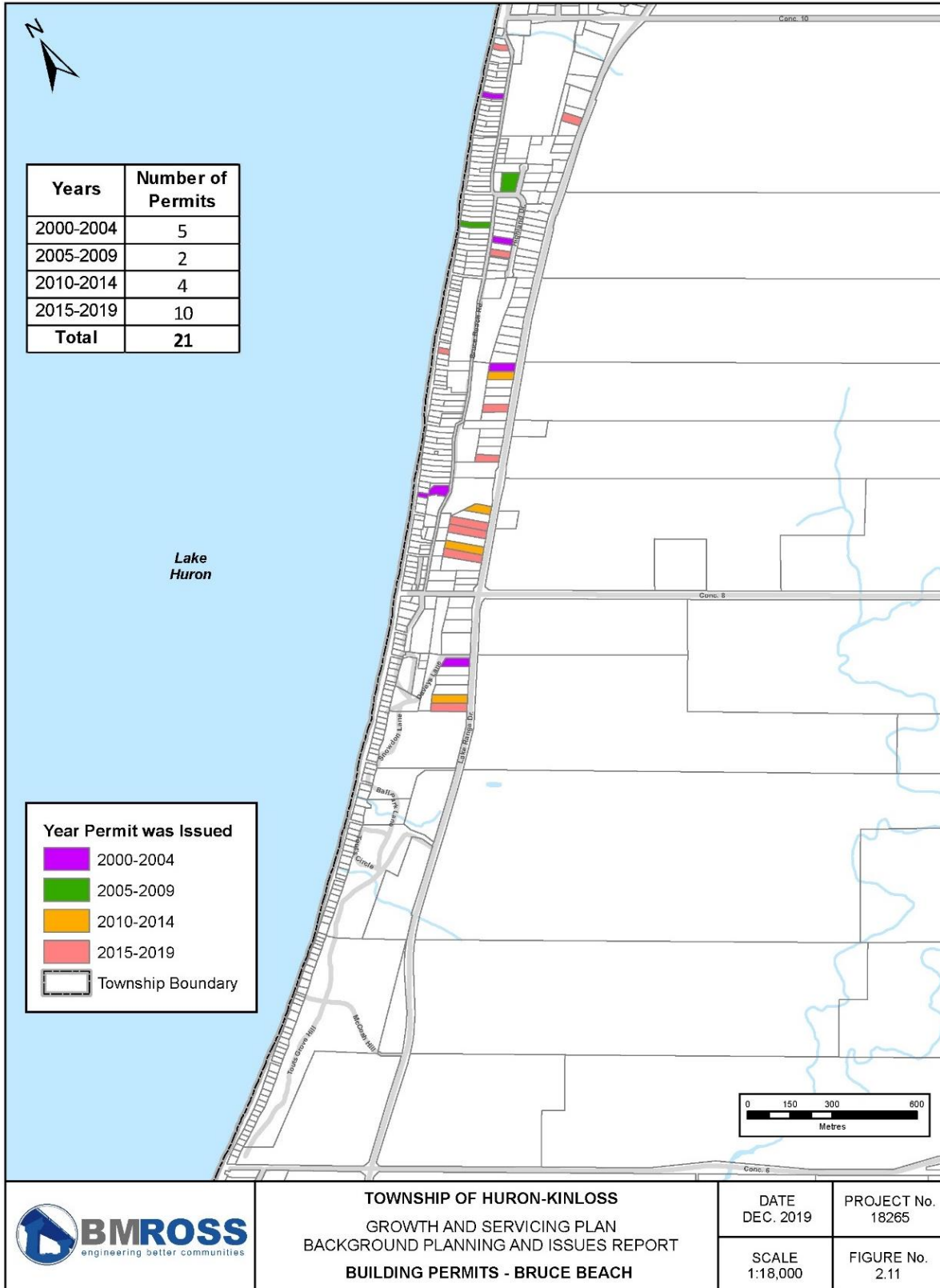
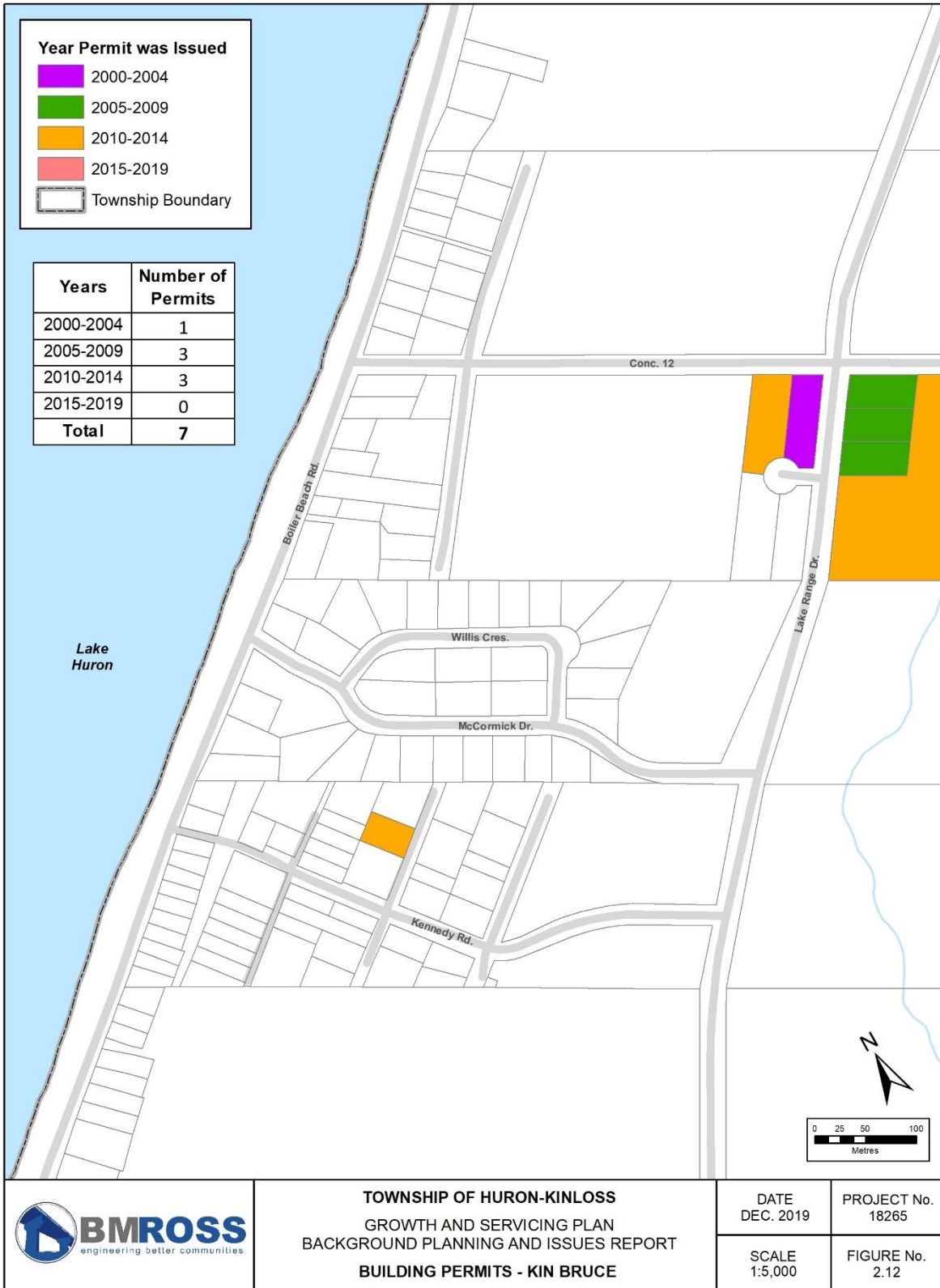


Figure 2.12 Residential Building Permits, Kin-Bruce, 2000-2019



TOWNSHIP OF HURON-KINLOSS
 GROWTH AND SERVICING PLAN
 BACKGROUND PLANNING AND ISSUES REPORT
BUILDING PERMITS - KIN BRUCE

DATE
DEC. 2019

PROJECT No.
18265

SCALE
1:5,000

FIGURE No.
2.12

Figure 2.13 Residential Building Permit, Boiler Beach, 2000-2019

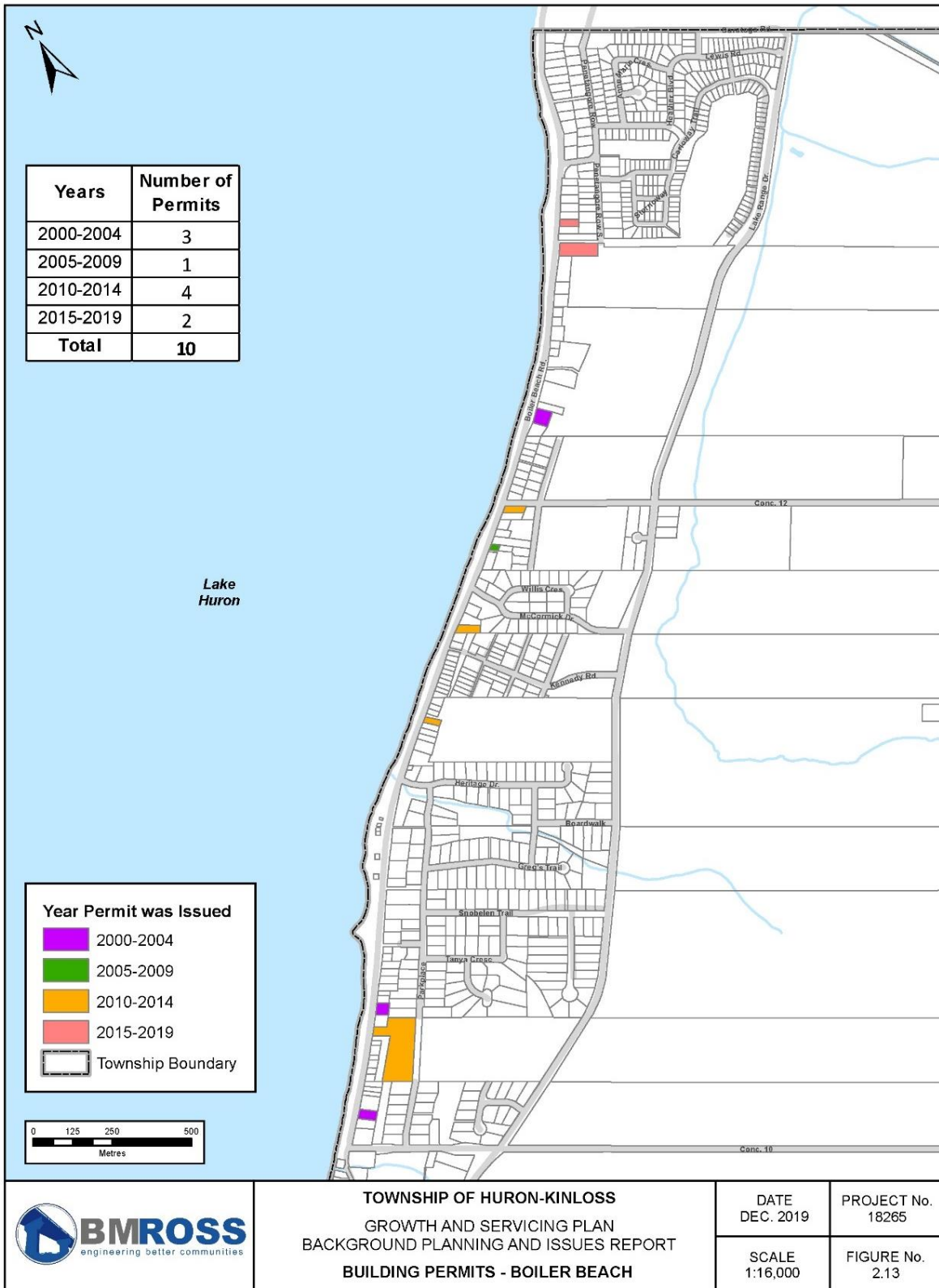
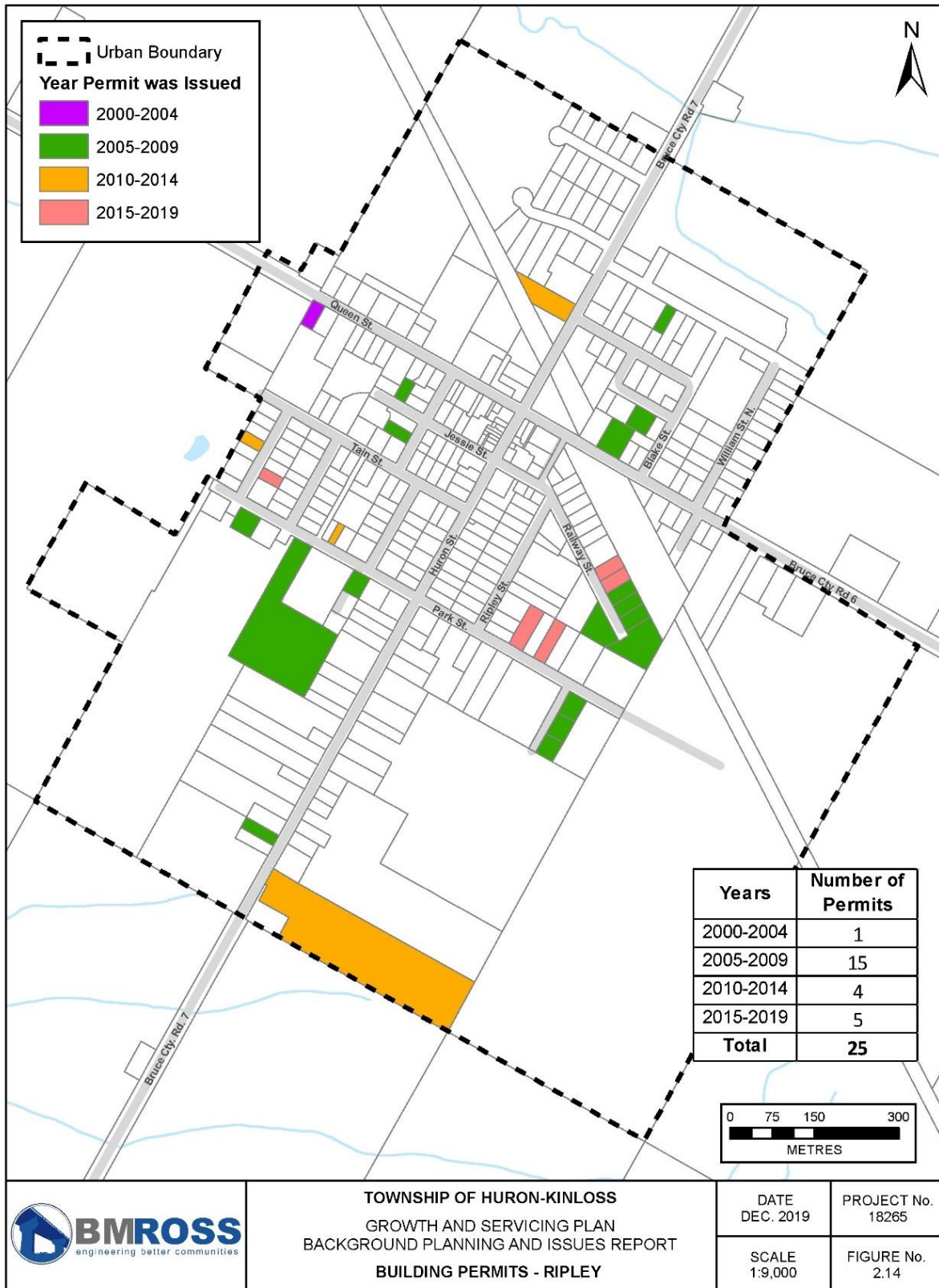


Figure 2.14 Residential Building Permits, Ripley, 2000-2019



TOWNSHIP OF HURON-KINLOSS
 GROWTH AND SERVICING PLAN
 BACKGROUND PLANNING AND ISSUES REPORT
 BUILDING PERMITS - RIPLEY

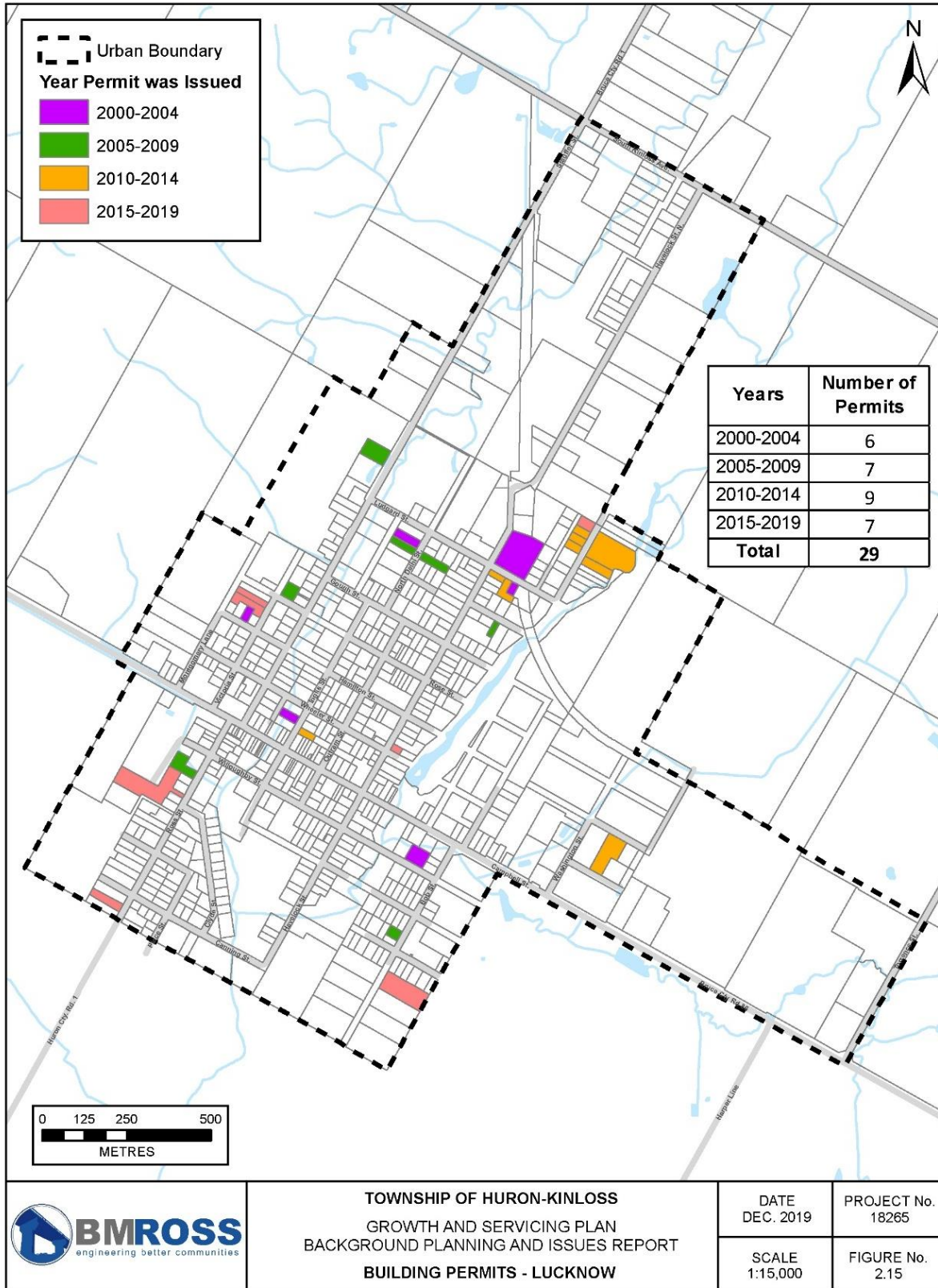
DATE
 DEC. 2019

PROJECT No.
 18265

SCALE
 1:9,000

FIGURE No.
 2.14

Figure 2.15 Residential Building Permit, Lucknow, 2000-2019



2.7 Inventory of Vacant Lands

During the process of inventorying the existing land uses in Lucknow, Ripley and the Lakeshore, vacant parcels were identified. Vacant parcels were then further split between those with constraints and those without. For vacant properties, constraints were identified as factors such as zoning, hazards, significant natural features, the absence of a municipal road, or any other feature that would require addressing prior to potential development. In some instances, a study or zoning amendment may be required prior to development; however, in other cases these factors may represent something that will restrict future development such as flood hazard. Properties perceived not have any immediate restrictions to development are identified as 'vacant'. It should be noted that the inventory of vacant lands undertaken for this study does not include an assessment of under-utilized lands, such as large parcels with a single residence.

The number of vacant parcels and vacant parcels with constraints for each study area is summarized in Table 2.16. Point Clark currently has the greatest number of infill lots (137) of all the study areas, followed by Lucknow (58) and Blairs Grove (37).

Table 2.16 Summary of Undeveloped Lots

Study Area	No. of Vacant Lots	No. of Vacant – Constrained Lots	Total No. of Undeveloped Lots
Lucknow	58	50	108
Ripley	23	28	51
Point Clark	137	28	165
Lurgan Beach	18	3	21
Blairs Grove	37	5	42
Bruce Beach	19	16	35
Heritage Heights	20	0	20
Kin-Bruce	10	0	10
Boiler Beach	4	0	4
Inverlyn Lake / Huronville	14	0	14
Total	340	130	470

The maps of the vacant lots include identifiers for specific lots where comments on the development status or constraints are provided in Appendix A.

In Lucknow, the vacant infill lots are found throughout the community (see Figure 2.16). There is one larger lot currently zoned for residential development on Montgomery Lane and a large lot at the north end of Havelock Street. It should be noted that the majority of this lot is zoned Environmental Protection; however, the portion of the property adjacent to Havelock Street is zoned Residential and there is the potential to develop along the street. It should also be noted that water and sanitary services do not extend north of the soccer fields along Havelock Street. In Lucknow, the flood hazard and flood fringe zoning represent many constraints to development.

The 23 undeveloped lots in Ripley are shown in Figure 2.17. Similar to Lucknow, there are infill lots throughout the existing community. Unlike Lucknow, there is an undeveloped Plan of Subdivision (McTavish Place) in the north end of Ripley. There are 24 existing lots in that Plan of Subdivision that have not been developed as the access roads and services have not been built. There are also lots along the north and south side of the unopened Finlay Street road allowance, which are currently constrained by the lack of road access.

Figure 2.16 Vacant Lands, Lucknow

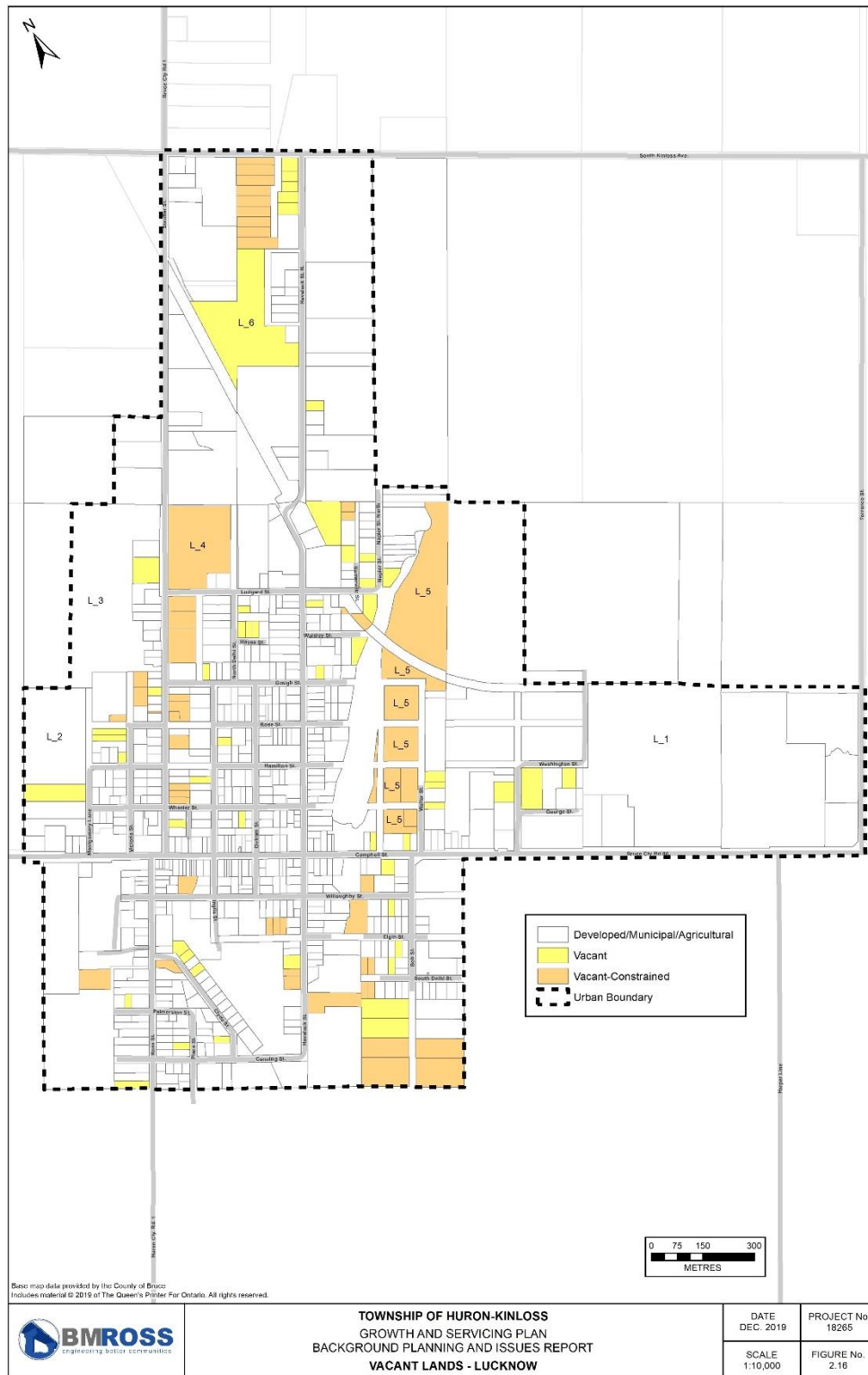


Figure 2.17 Vacant Lands, Ripley



There are 137 vacant lots in Point Clark. Most of these lots are infill lots, including a number of new lots recently developed as part of Sunset Place, in the southern part of Point Clark (Figure 2.17). There are four large lots between Abenaki and Seneca Streets that could be further subdivided in the future. There is also an approved 9 lot development located north of Hunt Club Drive. There is also a potential for additional development in the north end of Point Clark, along Lake Range Drive, north of Concession 4. There are several large vacant lots in Point Clark between Victoria Road and Lake Range Drive that are constrained by the presence of significant woodlands and watercourses.

The majority of vacant residential lots in Lurgan Beach are located in the northeast area of the community (Figure 2.18). Most of the undeveloped lots are infill lots. There is one large undeveloped property; however, it is constrained due to Environmental Protection zoning.

In Blairs Grove, similar to Lurgan Beach, many of the undeveloped lots are infill lots (Figure 2.19). A few of the infill lots are constrained by the presence of a significant woodland associated with Blairs Grove Nature Trail area. There is a large parcel in the northeast portion of the area that is constrained by the presence of a significant woodland.

Within Bruce Beach, there are relatively few (19) infill lots remaining. Most of the infill lots are found along Lake Range Drive (see Figure 2.20), with relatively few undeveloped lots below the bluff. In this study area there are some larger, undeveloped lots; however, most of these lots have limited development potential due current zoning (Environmental Protection) and the presence of significant woodland areas.

Figure 2.21 identifies the vacant lands in the Heritage Heights, Kin-Bruce and Boiler Beach study areas. There are 20 vacant infill lots in Heritage Heights. Most of the lots are within the Heritage III subdivision; however, there are some vacant lots remaining in the older part of the subdivision, including three along Lake Range Drive. In Kin-Bruce, there are 10 vacant lots, including two larger lots with the potential to be subdivided or split into smaller parcels along McCormick Drive. Along Boiler Beach, there are 4 infill properties that could develop in the future.

In the Inverlyn Lake/Huronville study area, there are 12 vacant infill properties and 2 larger vacant parcels (Figure 2.22). The majority of the infill properties are associated with the Inverlyn Lake development and are the last few lots before that subdivision is completely built out. Between Inverlyn Lake and Concession 12, there are two larger parcels on either side of an active gravel pit. These larger parcels are zoned for residential and it is expected that they will be subdivided in the future; however, any development on these lots is not likely to occur until the gravel pit ceases operations.

In total, across the settlement areas of the Township, there is an estimated 340 vacant residential infill lots. Over the past twenty years, the average number of building permits for new residential development in the settlement areas is 27 permits per year. Assuming an equivalent number of building permits on an annual basis, the infill lots represent a 12.5-year supply.

Figure 2.18 Vacant Lands, Point Clark

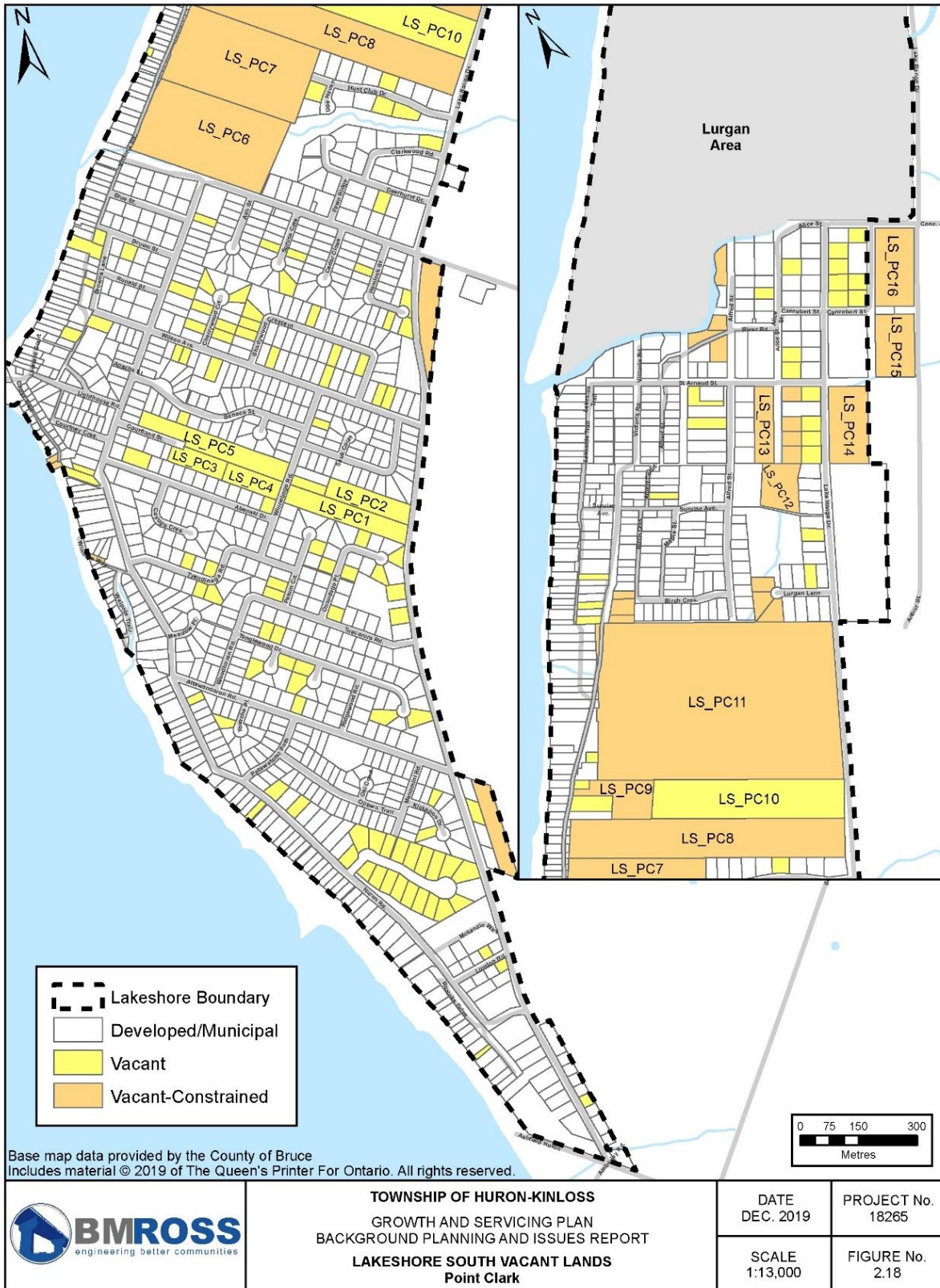


Figure 2.19 Vacant Lands, Lurgan Beach

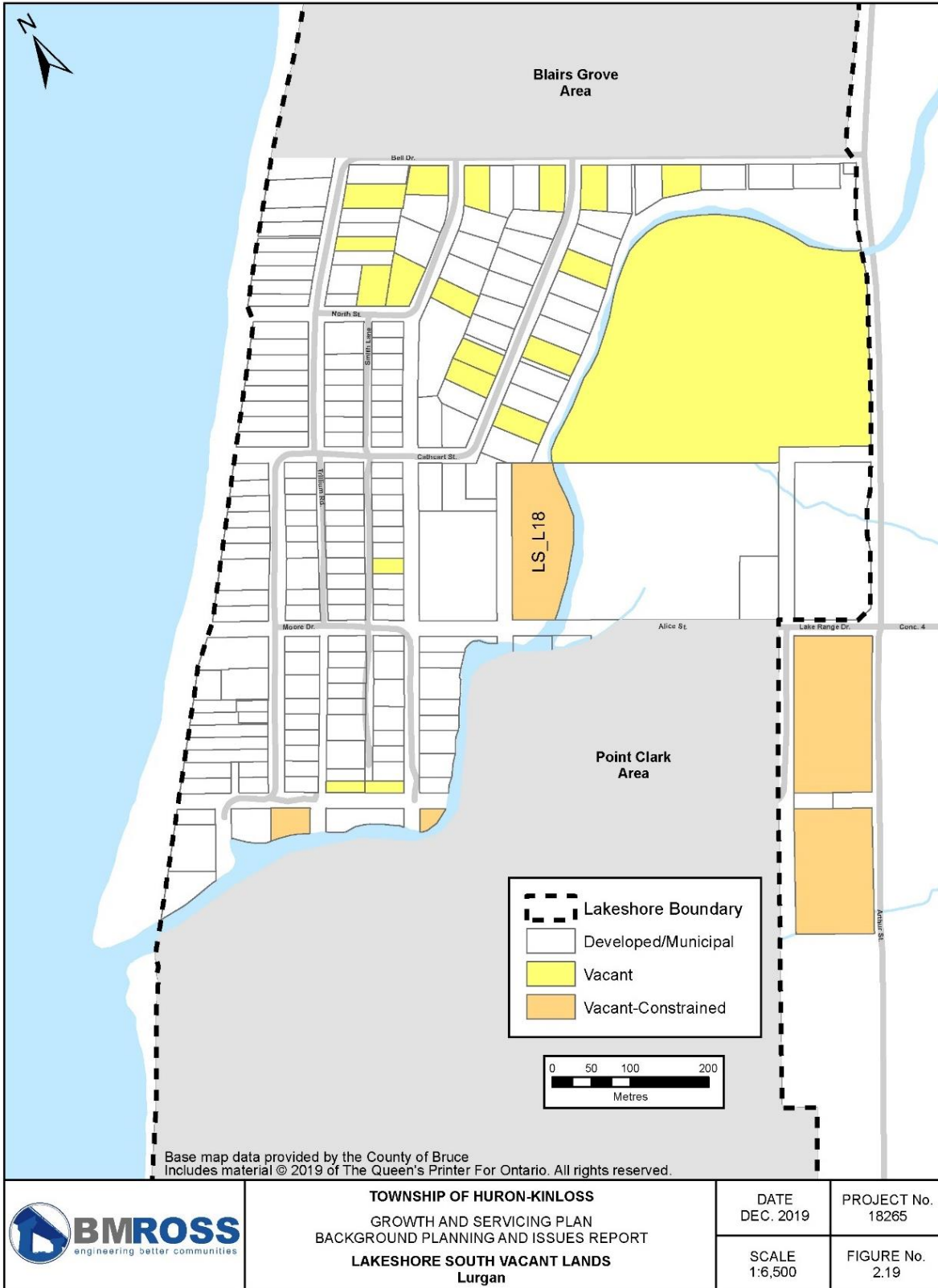


Figure 2.20 Vacant Lands, Blairs Grove



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH VACANT LANDS Blairs Grove		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:7,500	FIGURE No. 2.20

Figure 2.21 Vacant Lands, Bruce Beach



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


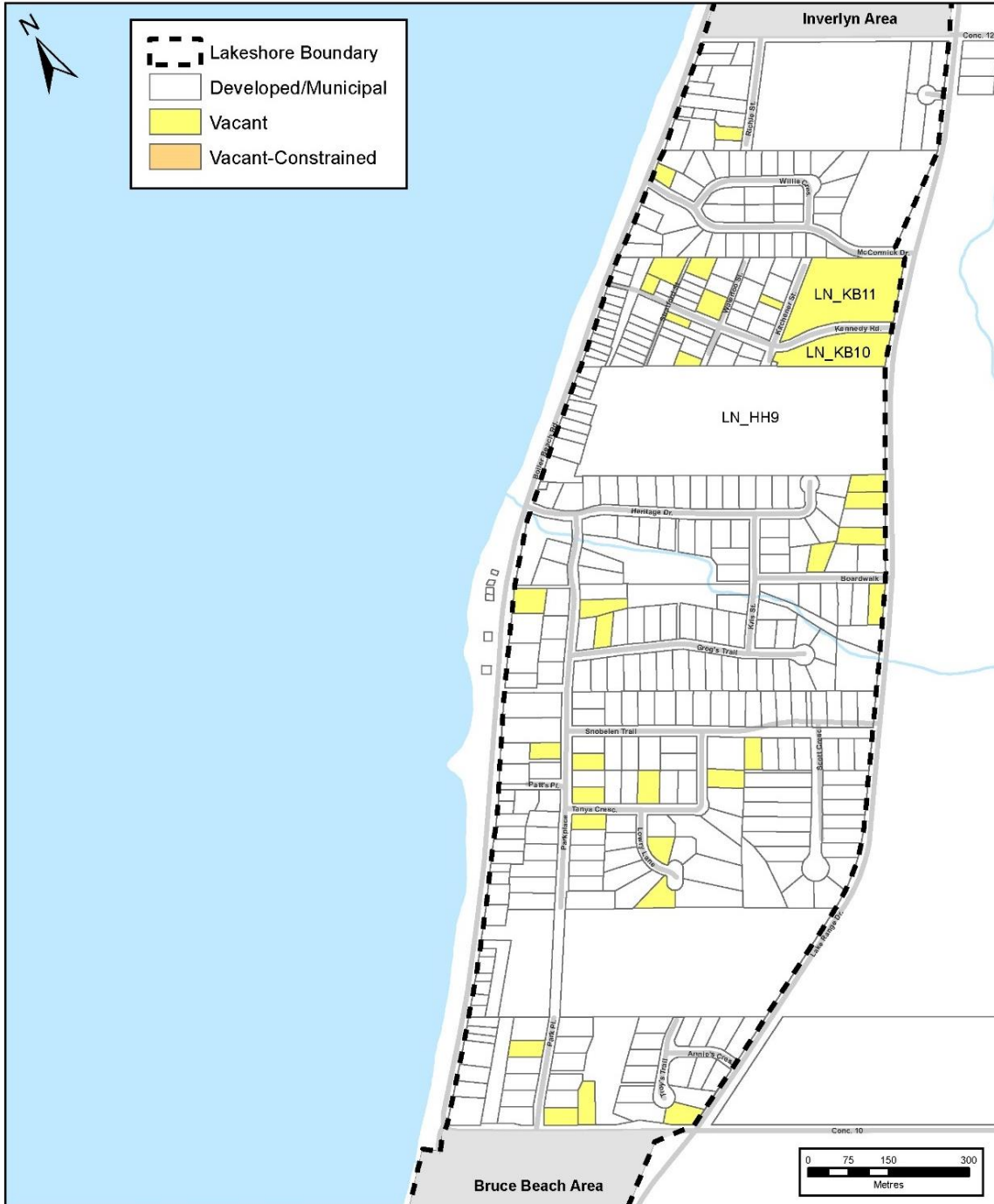
	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH VACANT LANDS Bruce Beach		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:10,000	FIGURE No. 2.21

Figure 2.22 Vacant Lands, Heritage Heights, Kin-Bruce, Boiler Beach (south)



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


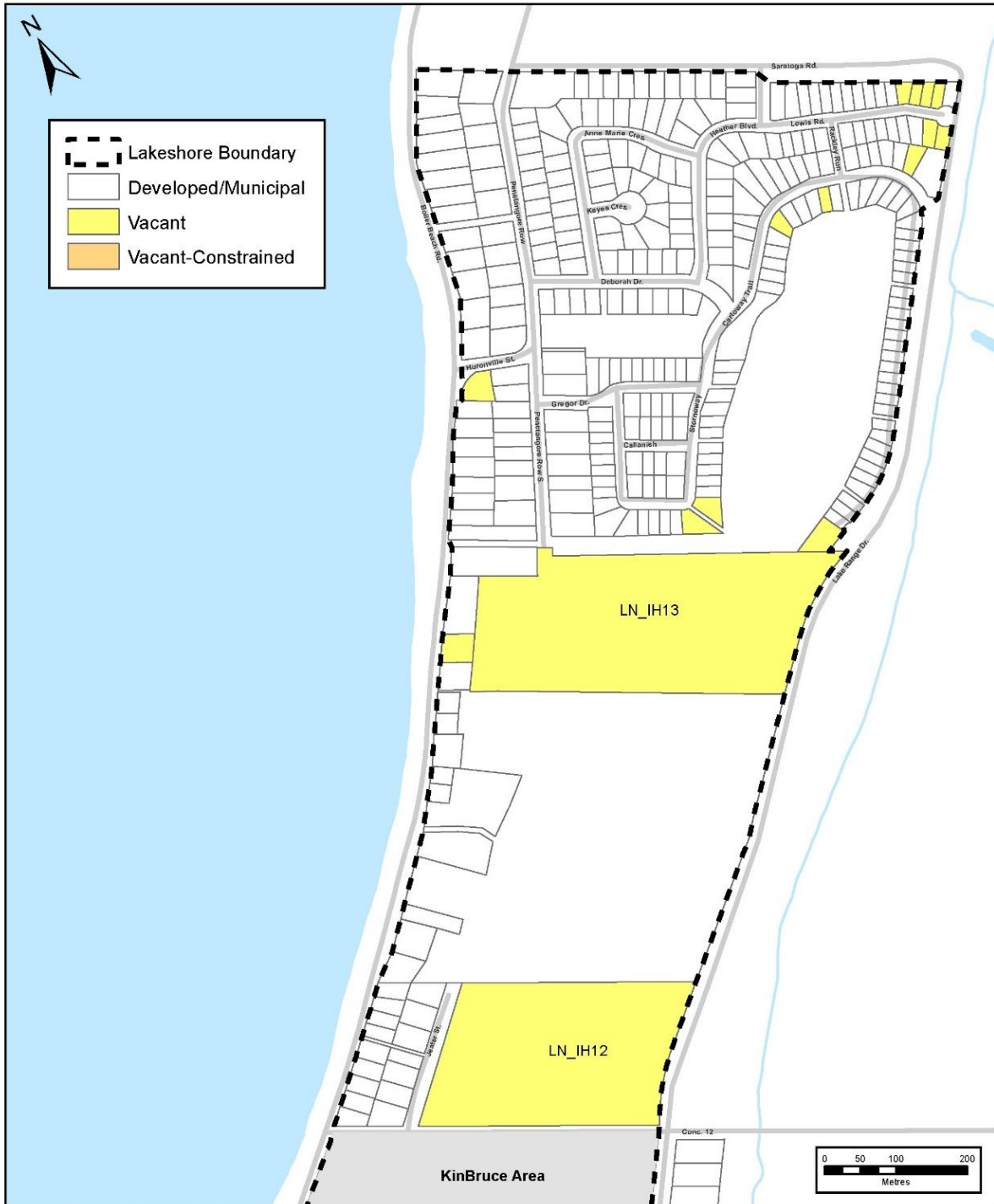

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT		DATE DEC. 2019	PROJECT No. 18265
	LAKESHORE NORTH VACANT LANDS Heritage Heights, Kin Bruce and South Boiler Beach		SCALE 1:10,000	FIGURE No. 2.22

Figure 2.23 Vacant Lands, Inverlyn Lake/Huronville, Boiler Beach (north)



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH VACANT LANDS Inverlyn, Huronville and North Boiler Beach	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:7,500	FIGURE No. 2.23

2.8 Proposed Developments

Within the settlement areas there is a variety of proposed developments. These developments include long-standing Plans of Subdivision that have not been built; redevelopments; and proposals in very preliminary stages (i.e. there is no Plan of Subdivision or development agreement in place). The majority of these developments are not included the counts of vacant lots, as the lots have not been created yet. Some, like the McTavish Place proposal, where the lots exist, are included in the vacant inventory counts.

Table 2.17 Current Development Proposals in Huron-Kinloss

Development Proposal	Proposed No. of Lots/Units or Vacant Lots Remaining	Location
Nine Mile Villa Expansion	13 units	Lucknow
McDonough/Jacobson Subdivision	70 units	Lucknow
Sommerville Lots	6 lots	Lucknow
Mann Severances	1 lot	Lucknow
Scott Severances	1 lot	Lucknow
Brown Subdivision	110 units	Ripley
Ripley Square	30 units	Ripley
McTavish Place	25 lots	Ripley
Finlay Street	10 lots	Ripley
Ripley Industrial Park	16 lots	Ripley
Ball Multiplex	2 units	Ripley
Inverlyn Estates	13 units	Lakeshore North
Heritage Heights (III)	7 units	Lakeshore North
Heritage Heights (IV)	1 unit	Lakeshore North
Crimson Oak	77 units	Lakeshore North
Ainsdale	40 units	Lakeshore North
Sunset Place	20 units	Lakeshore South
Kempton Subdivision	9 units	Lakeshore South
Irwin Severances	6 lots	Lakeshore South
Elliott	12 lots	Lakeshore South

The above-noted development proposals represent a total of 91 units in Lucknow; 93 units in Ripley; 138 in Lakeshore North; and 47 in Lakeshore South. Together, this totals 469 potential future units. Given an annual average of 27 building permits issued for new residential development in these areas over the last 20 years, these developments represent a 17-year supply of lots, in addition to the existing infill lots. While some of these lots exist as infill lots (e.g. the remaining lots in Heritage Heights and Inverlyn Lake), many of these lots do not exist (e.g. Brown subdivision, Crimson Oak) at present. While they are considered development commitments for the purposes of evaluating water and wastewater reserve capacities, it is difficult to ascertain when or if these developments will proceed to construction.

In areas like Ripley and Lucknow, the large number of proposed units give the impression of the availability of lots; however, many of these lots are not currently available and there is no guarantee these lots will develop in the future.

3.0 SERVICING INFRASTRUCTURE REVIEW

3.1 Municipal Water Infrastructure

3.1.1 Lucknow Water System

The Lucknow Water System is a groundwater-based supply and distribution system that services the village of Lucknow and 10 customers south of Lucknow in the Township of Ashfield-Colborne-Wawanosh. The system is supplied by two groundwater wells, located within Lucknow. Presently, the daily maximum water supply capacity is 1,500 m³.

Both wells are secure, deep bedrock wells. Well 4 is located in a wellhouse at 600 Havelock Street in roughly the centre of the community. This well was drilled in 1957 to a depth of 54.8 m and is disinfected by means of sodium hypochlorite. Well 5 is located in the southeast corner of the village and was drilled in 1967. It is 58.8 m deep and disinfected using sodium hypochlorite. The water supplied by these wells is naturally high in sodium and fluoride (Ausable Bayfield Maitland Valley Source Protection Region, 2014). Storage for the system is provided by a standpipe located at 656 Wheeler Street. The standpipe was originally constructed in the 1930s and is a bolted steel structure. It has a total volume to 996 m³. A pumphouse at 482 Ross Street controls the operations of the well pumps based on the water level in the standpipe. The standpipe is slated for replacement, due to its age and the need for additional storage volume.

The location of the water supply components is shown on Figure 3.1, including the distribution network. There are two trunk watermains, a 250 mm diameter trunk along Campbell Street from Montgomery Lane to Walter Street and a 300 mm trunk watermain from approximately the location of the soccer fields on Havelock Street south to the intersection with Campbell Street. There are also larger diameter watermains (200 mm) from the standpipe south along Ross Street and along Bob Street to the Well 5 pumphouse.

3.1.2 Ripley Water System

The village of Ripley is supplied water from the Ripley Drinking Water System. The system consists of two groundwater wells, an elevated storage tank and the distribution network. It supplies the entirety of the village of Ripley, with a current maximum water supply capacity of 864 m³.

The two currently operating wells are located adjacent to the Ripley Fire Department on Huron Street. Wells 1 and 2 were drilled in 1947 and 1994, respectively. The wells are supply water from a deep aquifer that is naturally high in sodium and fluoride (Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Region, 2015). A new elevated water storage facility was recently constructed, with a storage capacity of 1,465 m³, adjacent to the Ripley Huron Community Sports Complex. Associated with the new storage facility was the construction of an additional well. It is anticipated that Well 1 will be abandoned once the new well and storage facility are operational.

The distribution network for the Ripley Drinking Water System is shown in Figure 3.2. The system is mostly made up of 150 mm distribution watermains, with two small sections of trunk watermain recently constructed from the new elevated storage tank to Malcolm Street and to supply the Queen Street watermain. Recently, a 150 mm watermain was extended along Queen Street, from William Street to provide water service to the Ripley Industrial Park.

A map of the water customers for the Ripley water system is provide in Appendix B.

Figure 3.1 Lucknow Water System

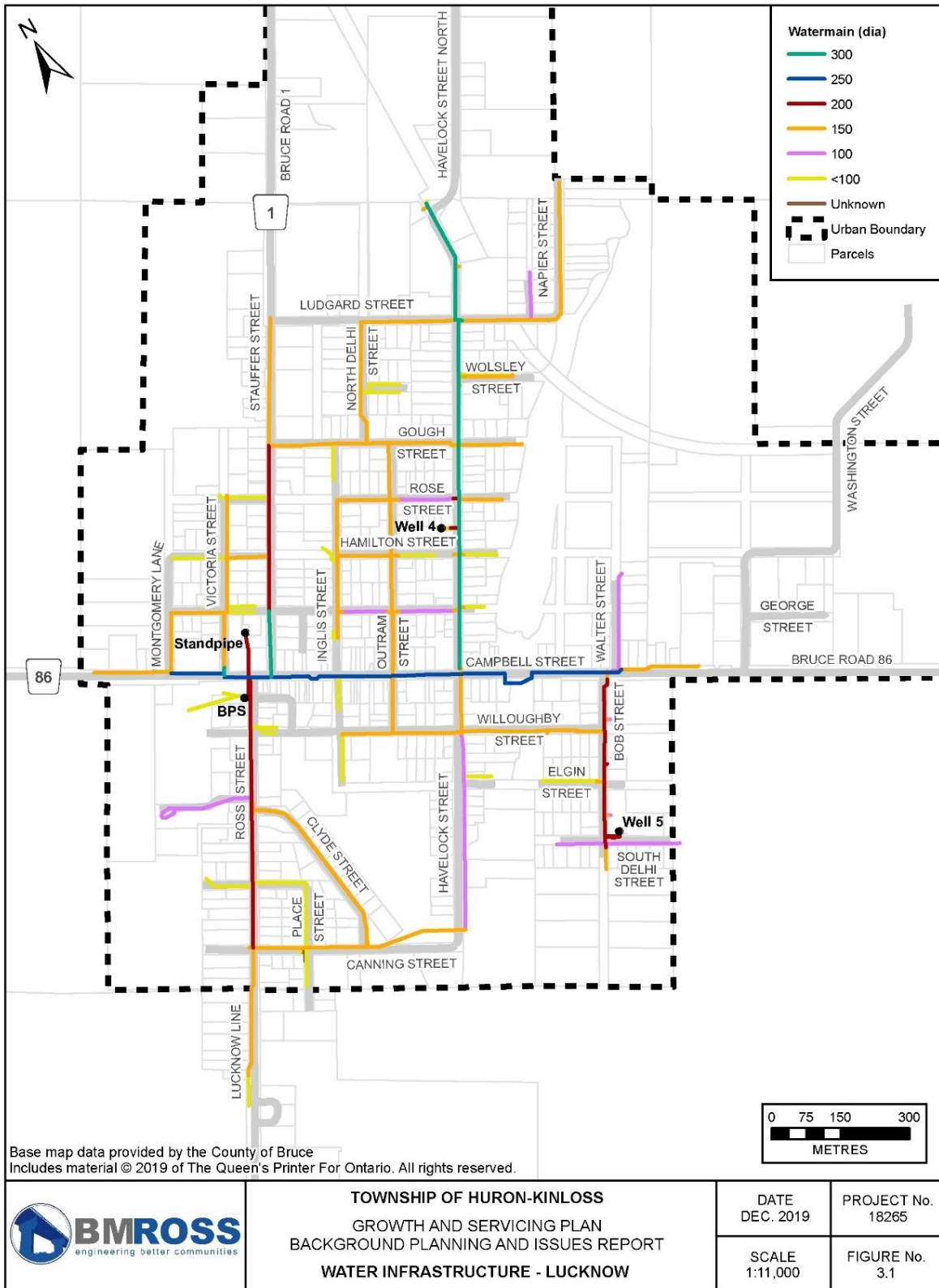
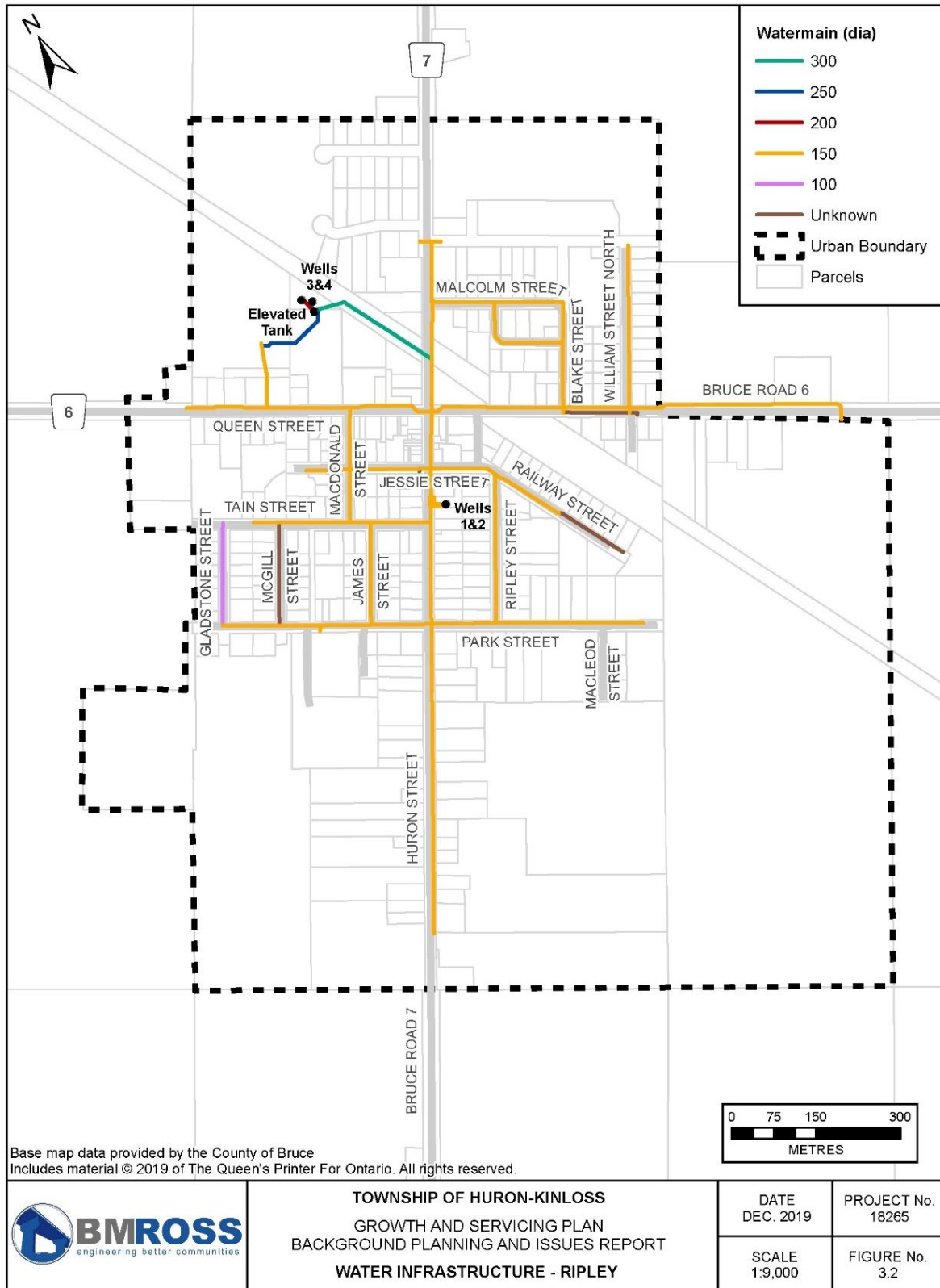


Figure 3.2 Ripley Water Infrastructure



3.1.3 Lakeshore Water System

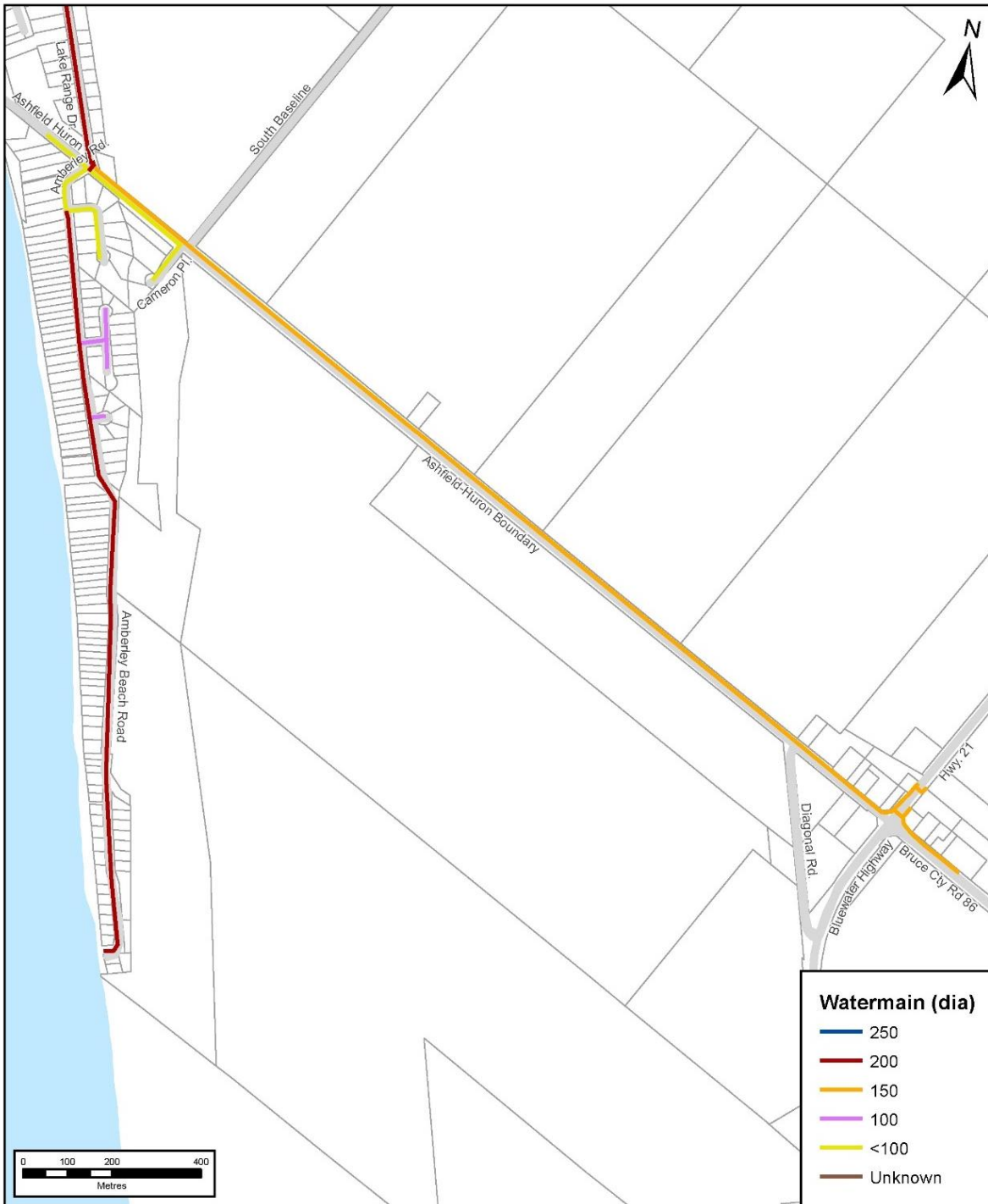
Along the lakeshore, residents are supplied water via the Lakeshore Drinking Water System. The system supplies properties from south of the Huronville area, south of Kincardine to Point Clark. It also extends south to provide water to residents in the Courtney/Amberley Beach area and east to service the hamlet of Amberley. The maximum water supply capacity of the system is 11,636.26 m³. The system is split into two pressures zones: Lakeshore North, which includes the Huronville South and Murdock Glen wells, and Lakeshore South, which is supplied by the Point Clark and Blairs Grove wells. In total, there are five wells that supply the system. The water supplied by the wells is disinfected utilizing sodium hypochlorite. Water from these wells has relatively high naturally occurring sodium, fluoride and iron (Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Region, 2015). Storage for the system is provided in a standpipe located on Concession 2, east of Point Clark.

Water for the Inverlyn Lake/Huronville area of the Township is provided by the Municipality of Kincardine. The Lakeshore Water Distribution System is connected to the Municipality of Kincardine Water System to allow for either system to provide supply in the case of an emergency.

This water system includes an extensive distribution system that supplies the different lakeshore communities, as well as the hamlet of Amberley and Amberley Beach area of ACW, as shown in Figures 3.3A. In Point Clark, there is a 200 mm trunk watermain along Victoria Road and Huron Road south to Attawandaron Road and to the Point Clark pumphouse (Figure 3.3B). Another 250 mm watermain runs along Lake Range Drive from St. Arnauld to the standpipe. There is a 250 mm watermain that runs from Point Clark, under the Pine River to Moore Street and the Blairs Grove pumphouse in Lurgan Beach (Figure 3.3C). A trunk watermain runs along Bell, Vozka and Gordon Street to Concession 6 (Figure 3.3D). A 200 mm trunk watermain runs along Lake Range Drive to service the Bruce Beach area (Figure 3.4A). Kin-Bruce and Heritage Heights are supplied via smaller distribution mains from Boiler Beach Road (Figure 3.4B). A 250 mm diameter trunk watermain connects the Huronville Pumphouse and Murdock Glen Pumphouse via Boiler Beach Road to Concession 10 (Figure 3.4C).

From the 250 mm watermain along the southern stretch of Lake Range Drive, there is a 200 mm supply main into Amberley Beach and a 150 mm supply main east to Amberley. The properties serviced by the Lakeshore Water System in Huron-Kinloss and ACW are shown on maps in Appendix B.

Figure 3.3A Lakeshore South Drinking Water Infrastructure, Amberley



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


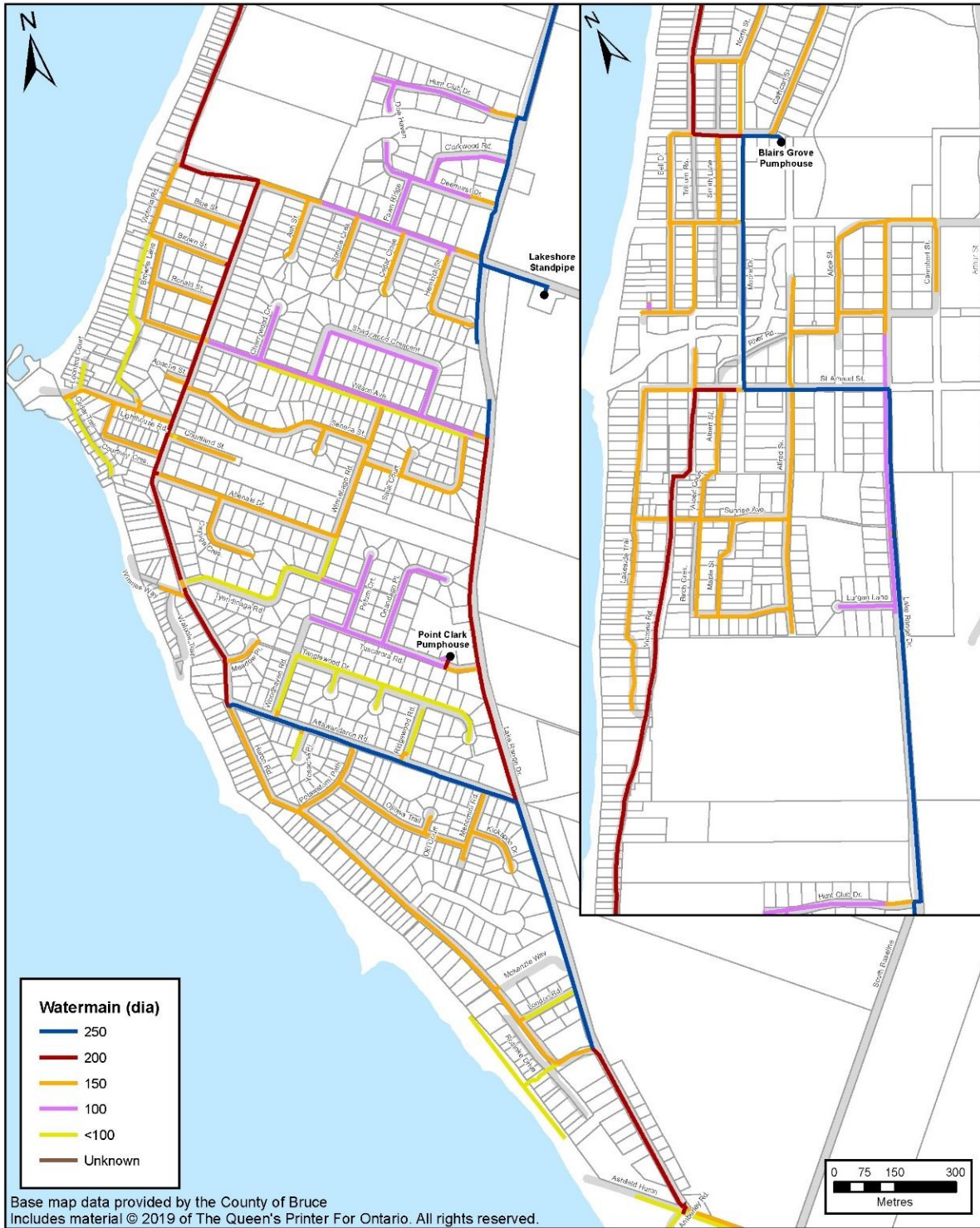
	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH WATER INFRASTRUCTURE Amberley	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:12,000	FIGURE No. 3.3a

Figure 3.3B Lakeshore South Drinking Water Infrastructure, Point Clark



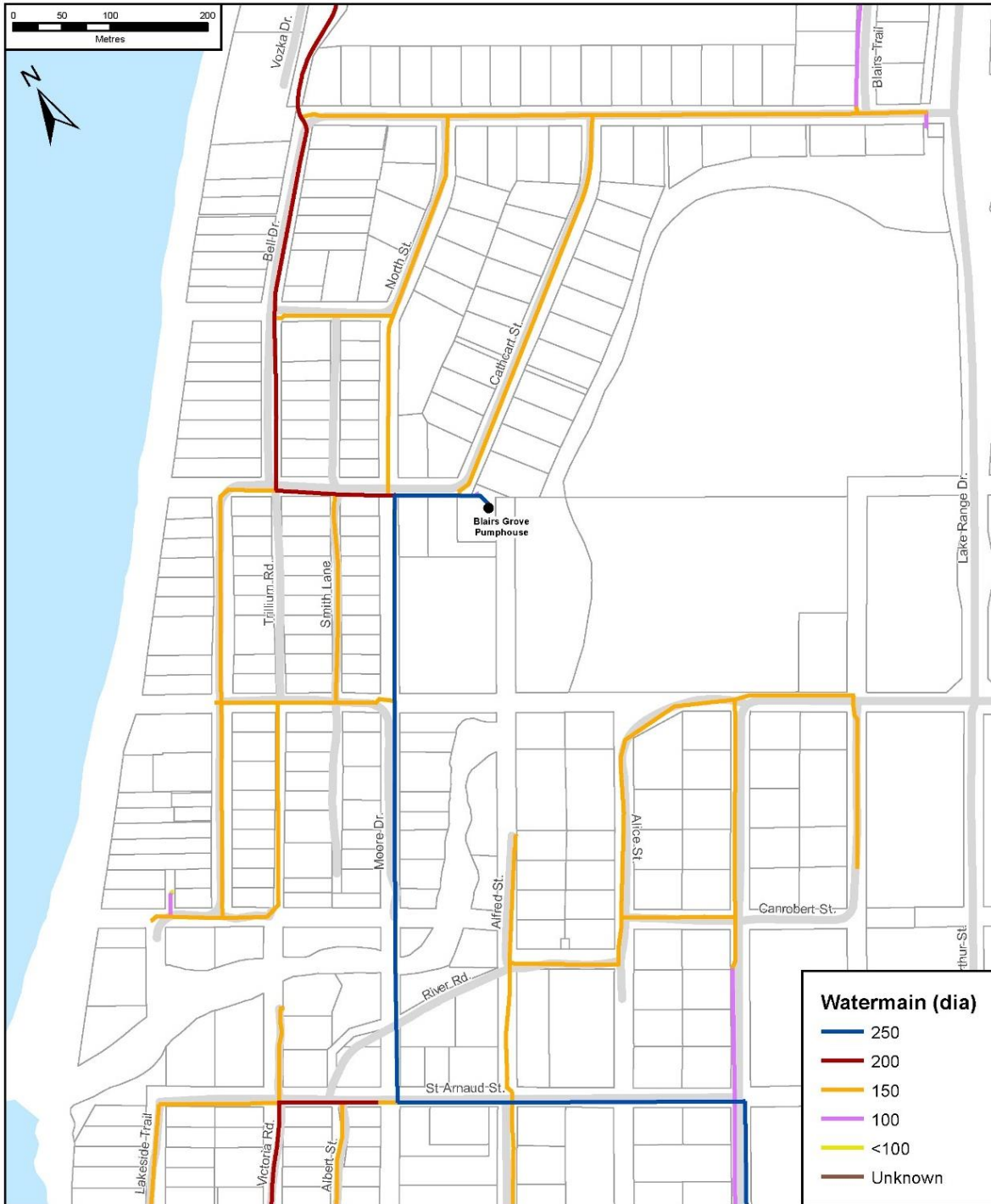
Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.



TOWNSHIP OF HURON-KINLOSS
GROWTH AND SERVICING PLAN
BACKGROUND PLANNING AND ISSUES REPORT
LAKESHORE SOUTH WATER INFRASTRUCTURE
Point Clark

DATE DEC. 2019	PROJECT No. 18265
SCALE 1:13,000	FIGURE No. 3.3b

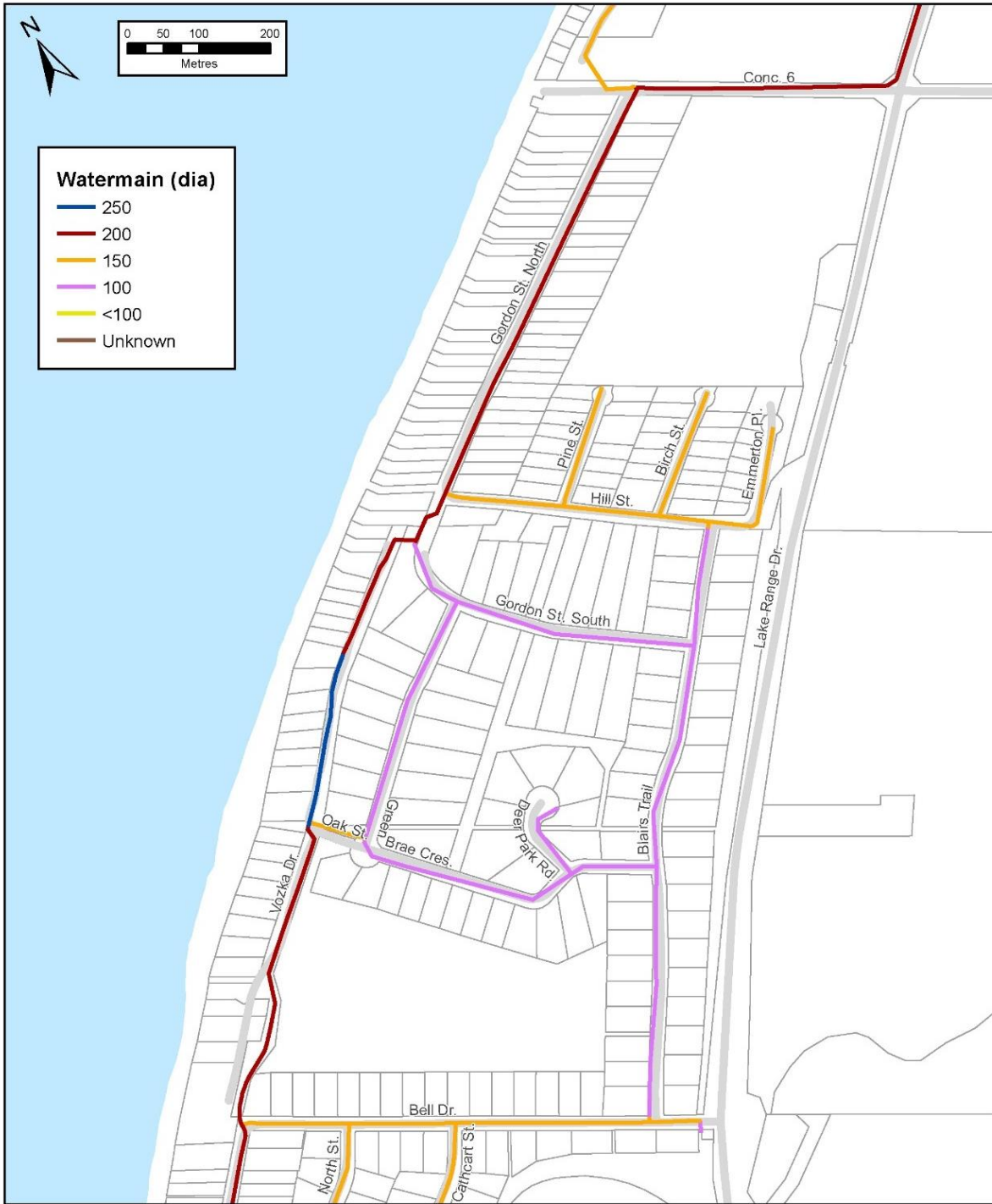
Figure 3.3C Lakeshore South Infrastructure, Lurgan Beach



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH WATER INFRASTRUCTURE Lurgan	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:5,500	FIGURE No. 3.3c

Figure 3.3D Lakeshore South Infrastructure, Blairs Grove



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.


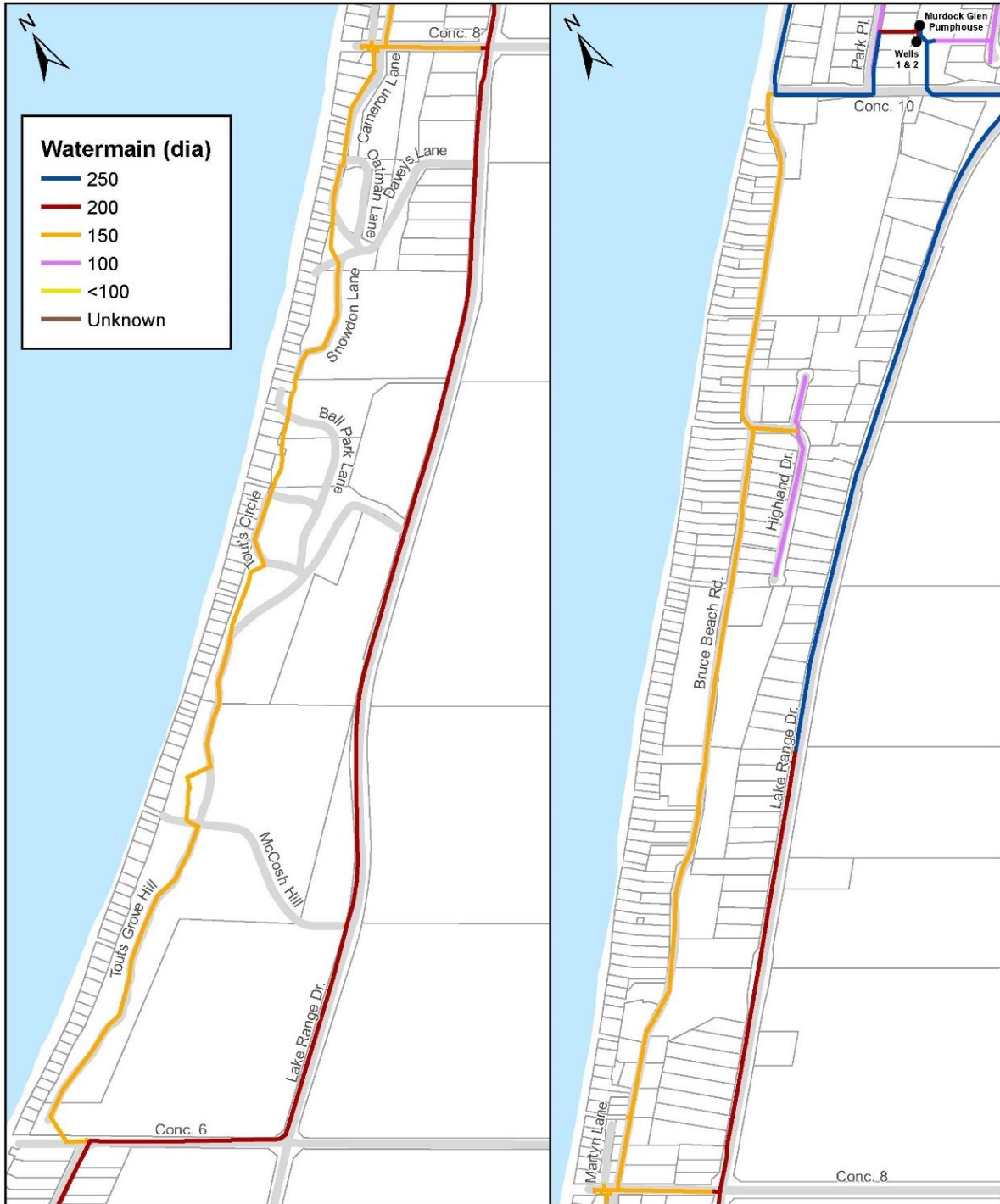
	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH WATER INFRASTRUCTURE Blairs Grove	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:7,500	FIGURE No. 3.3d

Figure 3.4A Lakeshore North Water Infrastructure, Bruce Beach

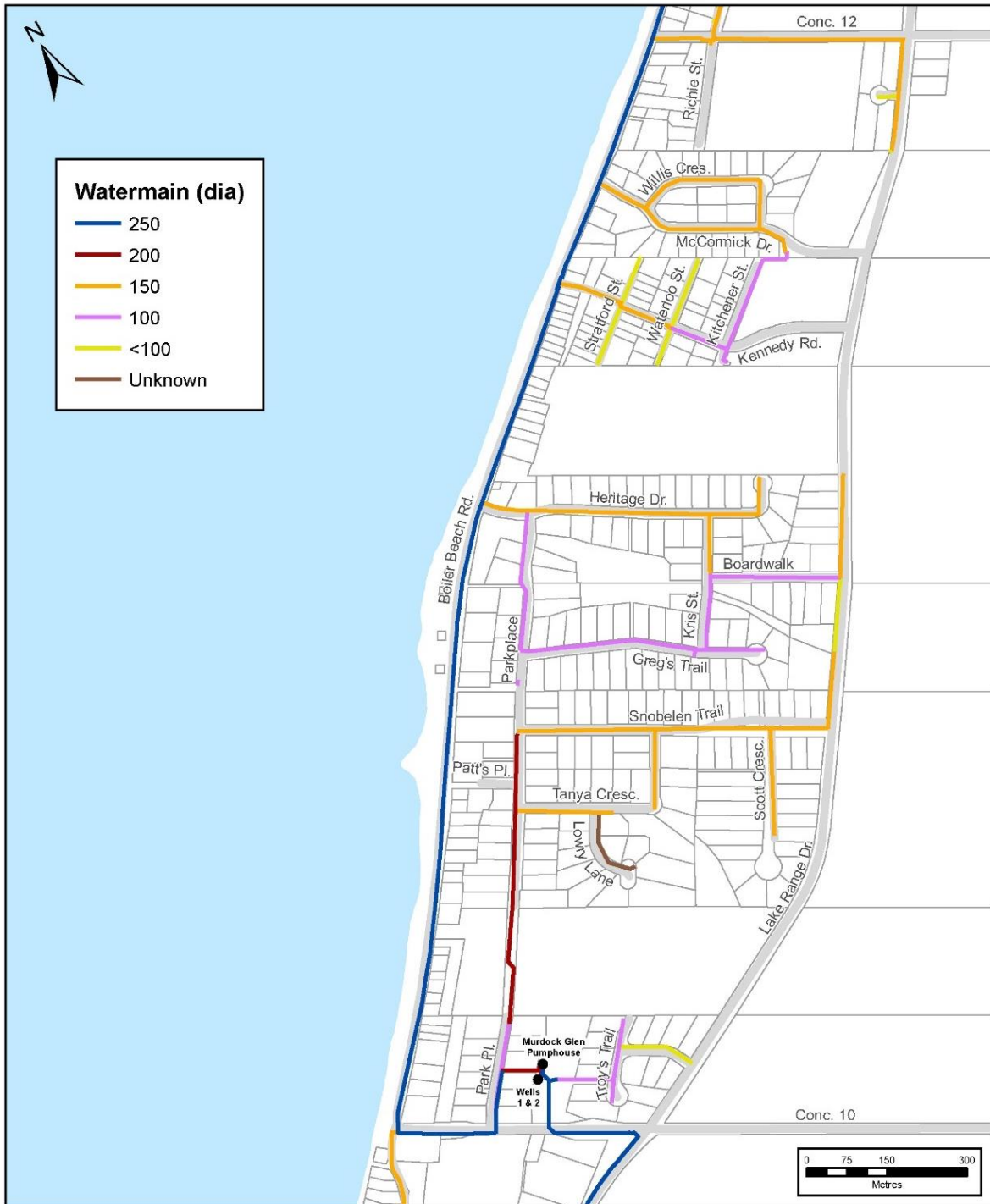


Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.



	<p>TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH WATER INFRASTRUCTURE Bruce Beach</p>	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:10,000	FIGURE No. 3.4a

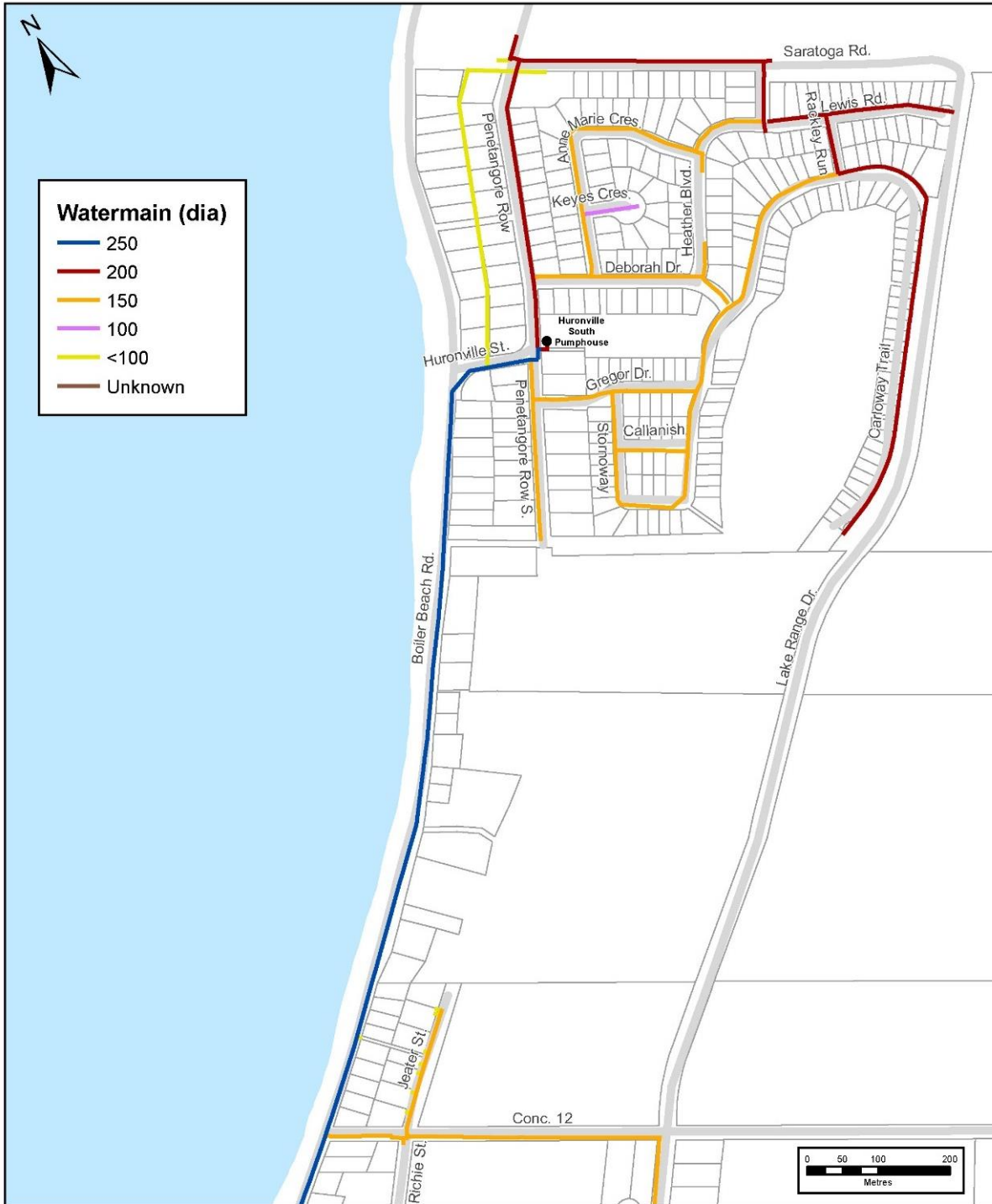
Figure 3.4B Lakeshore North Water Infrastructure, Heritage Heights, Kin-Bruce




Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	<p>TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH WATER INFRASTRUCTURE Heritage Heights, Kin Bruce and South Boiler Beach</p>	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:10,000	FIGURE No. 3.4b

Figure 3.4C Lakeshore North Water Infrastructure, Inverlyn Lake/Huronville, Boiler Beach



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH WATER INFRASTRUCTURE Inverlyn, Huronville and North Boiler Beach		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:7,500	FIGURE No. 3.4c

3.2 Municipal Wastewater Infrastructure

3.2.1 Lucknow Wastewater Treatment and Collection System

Municipal sewage collection and treatment is provided in Lucknow by an aerated lagoon system, located in the northeast corner of the village (see Figure 3.4). The system operates under ECA No. 3567-999KAF and includes a pumping station, 3 treatment lagoons, a storage lagoon and six rapid infiltration basins. The current rated capacity of the system is 750 m³/day. The sewage pumping station is located at Inglis Street has three sewage pumps and pumps sewage via a forcemain along Willoughby Street to Washington Street to the lagoons.

The collection system services the properties in Lucknow generally located south of the soccer fields on Havelock Street. Properties located north of the soccer fields on Havelock and Stauffer Streets are not serviced. The system also provides sanitary sewage services to five properties located south of Lucknow in the Township of Ashfield-Colborne-Wawanosh. Most of the sewage collection system is made up of 200 mm sewers; however, there are larger diameter sewers along Inglis Street, south of Hamilton Street.

3.2.2 Ripley Wastewater Treatment and Collection System

Similar to Lucknow, the village of Ripley has wastewater treatment for residents provided through a lagoon-based system. The treatment components include three waste stabilization ponds, a single post aeration cells and a sub-surface diffused air aeration system, located at the eastern edge of the village (see Figure 3.5). Treated effluent from the system is discharged into the South Pine River, between October 15th and May 1st. The capacity of the system is an average flow of 600 m³/day, and the discharge of effluent cannot exceed 4,200 m³/day.

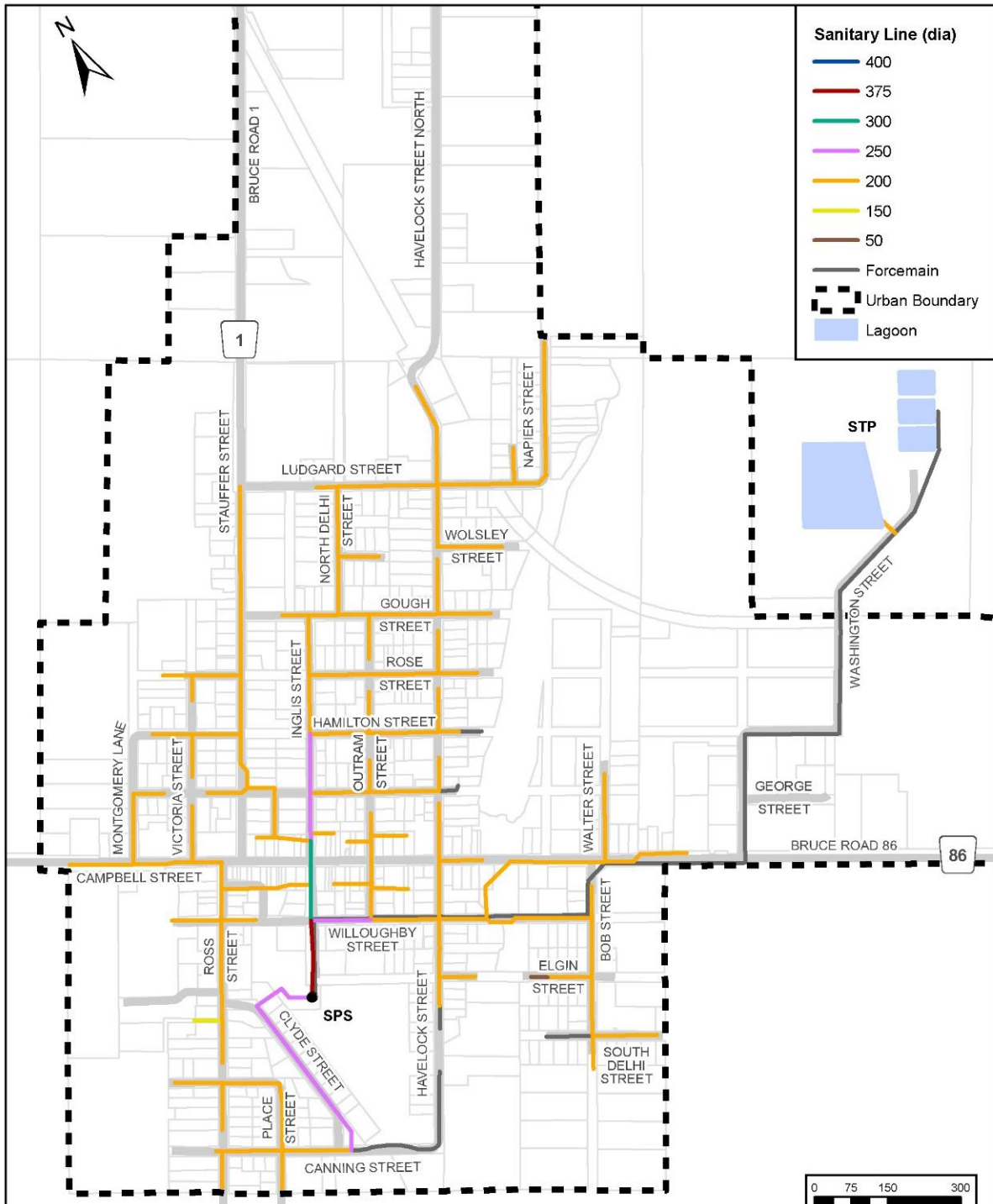
There are two sewage pumping stations for the system. One is located at the Ripley Huron Sports Complex and conveys sewage from that facility into the collection system at Queen Street. The other is located at the east end of Park Street and is the collection point for the system. Sewage from the entire village is conveyed to this station and then pumped to the lagoons.

The sewage collection system provides services to all developed properties in Ripley. There is a trunk sewer along Park Street from the sewage pumping station east to Ripley Street. Sewage from the north part of the community is conveyed to the sewage pumping station via 300- and 375-mm sewers along Queen Street to Railway Street, to Ripley Street to the Park Street trunk sewer. The west side of the community is serviced by 300 mm sewers along Park Street and Huron Street.

3.2.3 Wastewater Treatment and Collection along the Lakeshore

In the Inverlyn Lake/Huronville area, sanitary sewage collection and treatment services are provided by the Municipality of Kincardine. For the remainder of properties within the Lakeshore is provided by private, on-site sewage treatment systems.

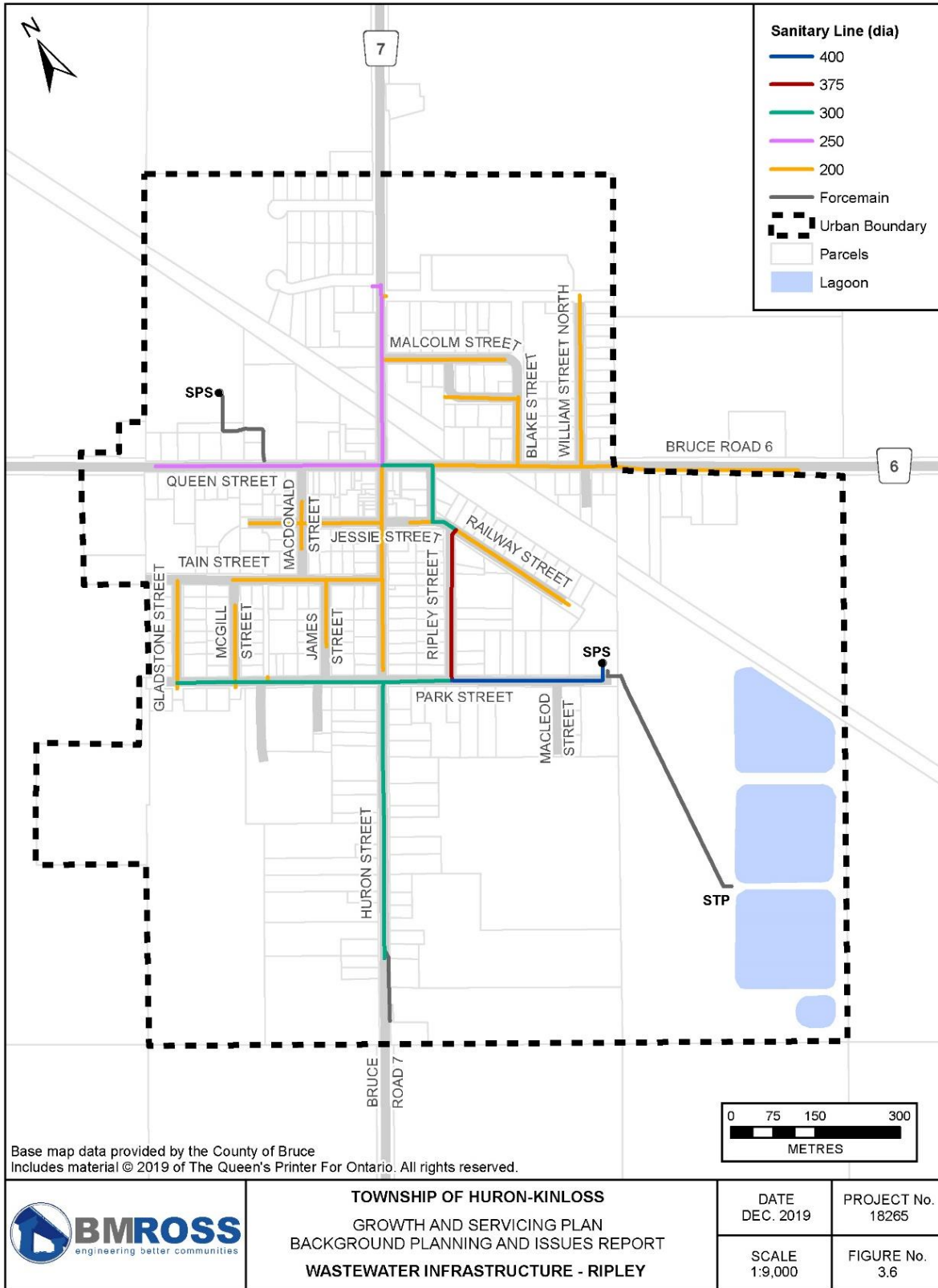
Figure 3.5 Wastewater Infrastructure, Lucknow



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT WASTEWATER INFRASTRUCTURE - LUCKNOW		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:11,000	FIGURE No. 3.5

Figure 3.6 Wastewater Infrastructure, Ripley



3.3 Reserve Capacity Analysis

3.3.1 Methodology

For the purposes of quantifying servicing requirements for current development commitments and future growth, water demands, and wastewater flows are described in terms of Equivalent Residential Units (ERUs). An ERU is defined as the unit flow design value for an individual residential unit, including single detached units, semi-detached units, apartments, condominiums, etc.

Where non-residential flow data is not available, the total flows and total number of customers is used for the analysis. This will generally result in a slight overestimation of each residential unit servicing requirements, providing an underestimation of reserve capacity for ERUs, assuming that non-residential customers have greater demands per connection than residential customers do.

System capacities were established through a review of the Municipal Drinking Water Licenses (MDWL) and Permits to Take Water (PTTW) for the water systems and the Environmental Compliance Approvals (ECA) for the wastewater systems.

The reserve capacity of a system is calculated as:

$$\text{Reserve capacity} = \text{Rated Capacity} - \text{Current Usage}$$

The reserve capacity includes “committed reserve” or the amount of capacity that is committed to future development (e.g. undeveloped lots created through a Plan of Subdivision) that is not yet built and “uncommitted reserve”. Uncommitted reserve capacity is the amount of capacity that is available for future development that has not yet been planned. The uncommitted capacity is calculated as:

$$\text{Uncommitted Capacity} = \text{Reserve Capacity} - \text{Committed Capacity}$$

For the water supply system, the current usage was determined as the maximum daily demand over the 2016 to 2018 period. The calculations for the water reserve capacity were completed for both the rated and firm capacity. The rated capacity is defined as the maximum rate at which water may be withdrawn from the source as specified by the lower of the MDWL or PTTW. The firm capacity is the capacity of the water system with the largest well or pump out of service. For the Lakeshore Drinking Water System, the rated capacities were calculated for the Lakeshore North and Lakeshore South pressure zones.

For the wastewater treatment systems, the current usage was defined as the average of the 2016-2018 average annual daily flow. The calculations for the wastewater reserve capacity were completed based on the “rated” capacity, defined as the average daily flow which sewage works have been approved to handle. This is calculated as the cumulative total sewage flow to the sewage works during a calendar year, divided by the number of days during which sewage was flowing to the sewage treatment works that year.

3.3.2 Existing and Development Commitments

The number of existing customers for the water and wastewater systems were determined from billing and metered customer lists provided by Township staff. An existing customer is a user of the system that is currently consuming water, producing wastewater or connected to the municipal system. The number of customers for the water and wastewater systems are summarized in Table 3.1 and 3.2. These counts include the water and wastewater customers in ACW.

Table 3.1 Water System Customers in Huron-Kinloss, by System

Water System	No. of Customers
Lucknow	670
Ripley	357
Lakeshore North	831
Lakeshore South	1,551

Table 3.2 Wastewater System Customers in Huron-Kinloss by System

Wastewater System	No. of Customers
Lucknow	592
Ripley	359

For the purposes of determining the uncommitted reserve capacity, Township staff provided lists of proposed and approved but unbuilt developments. The proposed developments include recent proposals that are in the very initial phases of planning and discussions with Township staff. Development commitments also include an estimate of the vacant infill lots within the service areas of the municipal systems. The count of vacant infill lots does not include larger parcels that could be subdivided, or an estimate of potential units on these lots, as the potential number of units can vary significantly based on density. The known development proposals and vacant infill lots are summarized in the following tables (Tables 3.3 to 3.6):

Table 3.3 Development Commitments - Lucknow

Development Name	Units
Nine Mile Villa Expansion	13
McDonaugh / Jacobson Subdivision	70
Sommerville Lots	6
Mann Severances	1
Scott	1
Infill	36
Total Commitments	127

Table 3.4 Development Commitments - Ripley

Development Name	Units
Brown Subdivision	110
Ripley Square	30
MacTavish Place	25
Finlay Street	10
Ripley Industrial Park	16
Ball Multiplex	2
Infill	24
Total Commitments	217

Table 3.5 Development Commitments – Lakeshore North

Development Name	Units
Inverlyn Estates	13
Heritage Heights Phase III	7
Heritage Heights Phase IV	1
Crimson Oak	77
Ainsdale ¹	40
Infill	39
Total Commitments	177

Table 3.6 Development Commitments – Lakeshore South

Development Name	Units
Sunset Place	20
Kempton Subdivision	9
Elliott ¹	12
Irwin	6
Infill	162
Total Commitments	209

The development commitments above do not include any future development outside of Huron-Kinloss (i.e. in ACW). There are future development lands identified in certain areas of ACW, as shown in Appendix B, however, at this time there is no commitment to provide water service to these areas.

3.3.3 Total Reserve Calculations – Water Treatment

3.3.3.1 Lucknow Water Treatment Capacity and Current Demands

The capacity of the system, as specified by the MDWL and PTTW are summarized in the following table. For the Lucknow Water System, the PTTW limits the rated capacity to 1,500 m³/day. The firm capacity of the system is 935 m³/day.

Table 3.7 Treatment Capacity - Lucknow

	No.	Dated	Well No. 4	Well No. 5
MDWL	087-103 No.2	May 20, 2016	1,245	3,276
PTTW	7631-AQYS3J	September 29, 2017	935	1,500

Current demands are estimated based on the maximum day flow over the last three years. Table 3.8 summarizes the maximum day demands in Lucknow between 2016 and 2018. The maximum day flow is 1,147 m³/day.

Table 3.8 Maximum Day Demand 2016-2018 Lucknow

Year	Maximum Day (m ³ /d)
2016	1,147
2017	851
2018	1,078
Max.	1,147

3.3.3.2 Lucknow Water Treatment Reserve Capacity

The uncommitted reserve capacity of the Lucknow Water System was calculated based on the firm and rate capacity, usage, number of customers and committed reserve. It should be noted that the committed reserve includes the existing infill lots that could feasibly be built upon within the extent of the current service area. The calculations for of the uncommitted reserve capacity based on both the firm and rated capacity are summarized in the following table.

Table 3.9 Reserve Capacity Lucknow

Lucknow		Rated		Firm	
Description	Units	Value	Calculation	Value	Calculation
Capacity	m ³ /d	1,500	-	935	-
Maximum Day Demand	m ³ /d	1,147	-	1,147	-
Total Reserve	m ³ /d	353	1,500 m ³ /d - 1,147 m ³ /d	-212	935 m ³ /d - 1,147 m ³ /d
Customer Usage	m ³ /d/ERU	1.71	1,147 m ³ /d / 670 ERU	1.71	1,147 m ³ /d / 670 ERU
Committed Reserve	m ³ /d	217	127 ERU X 1.71 m ³ /d/ERU	217	127 ERU X 1.71 m ³ /d/ERU
Uncommitted Reserve	m ³ /d	136	353 m ³ /d - 226 m ³ /d	-429	(-) 212 m ³ - 217 m ³
	ERU	79	136 m ³ /d / 1.71 m ³ /d/ERU	-	

3.3.3.3 Ripley Water Treatment Capacity and Current Demands

The capacity of the system, as specified by the MDWL and PTTW are summarized in the following table. For the Ripley Water System, the PTTW limits the rated capacity to 2,618 m³/day. The firm capacity of the system is 2,250 m³/day.

Table 3.10 Treatment Capacity - Ripley

	No.	Dated	Well No. 1 & 2	Well No. 3	Well No. 4
MDWL	087-104 No.2	May 20, 2016	all wells = 2,618		
PTTW	4634-ANZKYM	July 14, 2017	864	2,016	1,386

Current demands are estimated based on the maximum day flow over the last three years. Table 3.11 summarizes the maximum day demands in Ripley between 2016 and 2018. The maximum day flow is 696 m³/day.

Table 3.11 Maximum Day Demand, 2016-2018, Ripley

Year	Maximum Day (m ³ /d)
2016	598
2017	696
2018	613
Max.	696

3.3.3.4 Ripley Water Treatment Reserve Capacity

The uncommitted reserve capacity of the Ripley Water System was calculated based on the firm and rate capacity, usage, number of customers and committed reserve. The calculations for of the uncommitted reserve capacity based on both the firm and rated capacity are summarized in the following table.

Ripley		Rated		Firm	
Description	Units	Value	Calculation	Value	Calculation
Capacity	m ³ /d	2,618	-	2,250	-
Maximum Day Demand	m ³ /d	696	-	696	-
Total Reserve	m ³ /d	1,922	2,618 m ³ /d - 696 m ³ /d	1,554	2,250 m ³ /d - 696 m ³ /d
Customer Usage	m ³ /d/ERU	1.95	696 m ³ /d / 357 ERU	1.95	696 m ³ /d / 357 ERU
Committed Reserve	m ³ /d	423	217 ERU X 1.95 m ³ /d/ERU	429	217 ERU X 1.95 m ³ /d/ERU
Uncommitted Reserve	m ³ /d	1,499	1,922 m ³ - 423 m ³	1,125	1,554 m ³ - 423 m ³
	ERU	769	1,499 m ³ /d / 1.95 m ³ /d/ERU	577	1,131 m ³ /d / 1.95 m ³ /d/ERU

3.3.3.5 Lakeshore North Water Treatment Capacity and Current Usage

The following table summarizes the capacity of the two wells for the Lakeshore North water system. The rated capacity of the system per the PTTWs is 5,741 m³/d. The firm capacity is 1,814 m³/d.

Table 3.12 Treatment Capacity – Lakeshore North

	No.	Dated	Huronville S - Well No. 2	Murdoch Glen Well
MDWL	087-102 No.2	May 20, 2016	3,931	1,814
PTTW	3332-9N6H8L	November 13, 2014	3,927	-
PTTW	6123-A2UQBM	October 5, 2015	-	1,814

Table 3.13 identifies the maximum day flows for 2016-2018.

Table 3.13 Maximum Day Demand 2016-2018 – Lakeshore North

Year	Maximum Day (m ³ /d)
2016	3,335
2017	2,743
2018	2,997
Max.	3,335

3.3.3.6 Lakeshore North Water Total Reserve Capacity

The uncommitted reserve capacity of the Lakeshore Water System was calculated based on the firm and rate capacity, usage, number of customers and committed reserve. The calculations for of the uncommitted reserve capacity based on both the firm and rated capacity are summarized in the following table.

Table 3.14 Reserve Capacity – Lakeshore North

Lakeshore N		Rated		Firm	
Description	Units	Value	Calculation	Value	Calculation
Capacity	m ³ /d	5,741	-	1,814	-
Maximum Day Demand	m ³ /d	3,335	-	3,335	-
Total Reserve	m ³ /d	2,406	5,741 m ³ /d - 3,335 m ³ /d	-1,521	1,814 m ³ /d - 3,335 m ³ /d
Customer Usage	m ³ /d/ERU	4.01	3,335 m ³ /d / 831 ERU	4.01	3,335 m ³ /d / 831 ERU
Committed Reserve	m ³ /d	710	177 ERU X 4.01 m ³ /d/ERU	710	177 ERU X 4.01 m ³ /d/ERU
Uncommitted Reserve	m ³ /d	1,696	2,406 m ³ /d - 710 m ³ /d	-2,231	(-) 1,521 m ³ /d - 710 m ³ /d
	ERU	423	1,696 m ³ /d / 4.01 m ³ /d/ERU	-	-

3.3.3.7 Lakeshore South Water Treatment Capacity and Current Usage

The following table summarizes the capacity of the two wells for the Lakeshore South water system. The rated capacity of the system per the PTTWs is 5,893 m³/d. The firm capacity is 2,618 m³/d.

Table 3.15 Treatment Capacity - Lakeshore South

	No.	Dated	Blairs Grove	Point Clark - Well No. 2 & 3
MDWL	087-102 No.2	May 20, 2016	2,618	3,275
PTTW	6154-988KDE	July 3, 2013	2,621	-
PTTW	1852-9YQMAY	July 30, 2015	-	3,273

Table 3.16 identifies the maximum day flows for 2016-2018.

Table 3.16 Maximum Day Demand 2016-2018 – Lakeshore South

Year	Maximum Day (m ³ /d)
2016	3,744
2017	2,813
2018	3,140
Max.	3,744

3.3.3.8 Lakeshore South Water Total Reserve Capacity

Table 3.17 Reserve Capacity - Lakeshore South

Lakeshore S		Rated		Firm	
Description	Units	Value	Calculation	Value	Calculation
Capacity	m ³ /d	5,893	-	2,618	-
Maximum Day Demand	m ³ /d	3,744	-	3,744	-
Total Reserve	m ³ /d	2,149	5,893 m ³ /d - 3,744 m ³ /d	-1,126	2,618 m ³ /d - 3,744 m ³ /d
Customer Usage	m ³ /d/ERU	2.41	3,744 m ³ /d / 1,551 ERU	2.41	3,744 m ³ /d / 1,551 ERU
Committed Reserve	m ³ /d	504	209 ERU X 2.41 m ³ /d/ERU	504	209 ERU X 2.41 m ³ /d/ERU
Uncommitted Reserve	m ³ /d	1,645	2,149 m ³ /d - 504 m ³ /d	-1,630	(-) 1,126 m ³ /d - 504 m ³ /d
	ERU	683	1,645 m ³ /d / 2.41 m ³ /d/ERU	-	-

3.3.4 Water Storage Reserve

Table 3.18 identifies the existing and future storage facilities and their volumes.

Table 3.18 Water Storage Facilities - Lucknow and Ripley

Facility	Total Volume (m ³)	Effective Volume (m ³)
Future Lucknow Elevated Storage Tank	1,600	1,600
Existing Lucknow Standpipe	996	~35
Existing Ripley Elevated Storage Tank	1,465	1,465
Existing Point Clark (Lakeshore) Standpipe	1,500	~138 ¹

Notes: 1. An operating range of 2m is typically used in the Point Clark Standpipe. The standpipe inner diameter of 9.38m is used for the calculation of effective volume.

3.3.4.1 Required Volumes

Water storage is used to provide:

- Peak flow equalization
- Water supply for fire protection
- Water supply for emergencies

The above requirements are listed in order of priority and discussed in more detail in the following sections:

Storage for Peak Flow Equalization

Normally, the water supply and treatment facilities are designed to provide supply for the “maximum day” demand. If there is insufficient storage (e.g. standpipe, reservoir) to satisfy the peak flow equalization requirements (typically taken as 25% of the maximum day demand) then peak demands must be met from other storage (e.g. chlorine contact reservoir) or from surplus in the treatment facilities (i.e. water provided directly from treatment system rather than from storage).

Table 3.19 provide the peak flow equalization required for the existing and committed serviced scenarios, for Lucknow, Ripley and Lakeshore, respectively.

Table 3.19 Storage Requirements for Peak Flow Equalization - Lucknow

Scenario	Volume Required (m ³) Lucknow	Volume Required (m ³) Ripley	Volume Required (m ³) Lakeshore
Existing	287	174	1,770
Existing + Commitments	341	280	2,055

Storage for Fire Protection

The Ministry of the Environment, Conservation and Parks (MECP) Guidelines (2008) recommend the following volumes for fire protection purposes:

Table 3.20 Storage Requirements for Fire Protection - Lucknow

Scenario	Criteria ¹	Volume Required (m ³)
Existing	87 L/s x 2 hours	625
Existing + Commitments	98 L/s x 2 hours	700

Table 3.21 Storage Requirements for Fire Protection - Ripley

Scenario	Criteria ¹	Volume Required (m ³)
Existing	60 L/s x 2 hours	434
Existing + Commitments	79 L/s x 2 hours	567

Table 3.22 Storage Requirements for Fire Protection - Lakeshore System

Scenario	Criteria ¹	Volume Required (m ³)
Existing	160 L/s x 3 hours	1,733
Existing + Commitments	168 L/s x 3 hours	1,814

Notes: 1. Volumes are based on formulas in the MECP Guidelines (2008). Assume 2.6 persons per customer in Lucknow, Ripley and Lakeshore for calculated number of ERU. This value is from the Veolia Annual report 2018.

Storage for Emergencies

As per the MECP Guidelines (2008), emergency storage is typically taken as 25% of the of the total volume of peak flow equalization plus fire storage. Table 3.23 summarizes the design storage values for Lucknow, Ripley and Lakeshore, respectively.

Table 3.23 Storage Requirement for Emergencies

Scenario	Volume Required (m ³) Lucknow	Volume Required (m ³) Ripley	Volume Require (m ³) Lakeshore
Existing	228	152	876
Existing + Commitments	260	212	967

Storage Summary

The Lucknow standpipe has a total storage of 996 m³ and effective storage of ~35 m³ with a new elevated tank currently being planned with 1,600 m³ of total and effective storage. The Ripley elevated storage tank has a total and effective storage of 1,465 m³. The Lakeshore standpipe has a total storage of 1,500 m³ and effective storage of ~138 m³. Tables 5.5A, 5.5B and 5.5C summarize the individual component and total design storage volumes for Lucknow, Ripley and Lakeshore, respectively, based on MECP Design Guidelines (2008).

Table 3.24 Storage Summary - Lucknow

Scenario	Volume Required (m ³)			
	For Equalization	For Fire Protection	For Emergency	Total
Existing	287	625	228	1,139
Existing + Commitments	341	700	260	1,300

Table 3.25 Storage Summary - Ripley

Scenario	Volume Required (m ³)			
	For Equalization	For Fire Protection	For Emergency	Total
Existing	174	434	152	760
Existing + Commitments	280	567	212	1,059

Table 3.26 Storage Summary – Lakeshore System

Scenario	Volume Required (m ³)			
	For Equalization	For Fire Protection	For Emergency	Total
Existing	1,770	1,733	876	4,378
Existing + Commitments	2,055	1,814	967	4,836

3.3.5 Total Reserve Calculations – Wastewater Treatment

3.3.5.1 Lucknow WWTP Capacity and Current Flows

The hydraulic or volumetric rated capacity of the existing Lucknow WWTP is established by ECA No. 3567-999KAF, issued on August 6, 2013, as 750 m³/day on an annual average basis.

Table 3.27 identifies the annual average flows for 2016-2018.

Table 3.27 Wastewater Flows 2016-2018 - Lucknow

Year	Annual Average (m ³ /day)
2016	597
2017	592
2018	627
3 Year Average	605

3.3.5.2 Lucknow Total Reserve Capacity

Table 3.28 Reserve Capacity - Lucknow

Description	Units	Value	Calculation
Capacity	m ³ /d	750	-
Average Day Flow	m ³ /d	605	-
Total Reserve	m ³ /d	145	750 m ³ /d - 605 m ³ /d
Customer Usage	m ³ /d/ERU	1.02	605 m ³ /d / 592 ERU
Committed Reserve	m ³ /d	130	127 ERU X 1.02 m ³ /d/ERU
Uncommitted Reserve	m ³ /d	15	145 m ³ /d - 130 m ³ /d
	ERU	15	15 m ³ /d / 1.02 m ³ /d/ERU

The above calculation includes all proposed development (including those that have yet to start planning processes associated with the proposals) and infill lots within the current service area. The committed reserve essentially represents building out the service area of Lucknow.

3.3.5.3 Lucknow Total Reserve Based on Average Concentration

ECA No. 3567-999KAF stipulates average effluent concentration objectives for the aerated lagoon Cell No. 3 and monthly average effluent concentration limits for groundwater monitoring.

From 2016-2018, there was one groundwater sample that resulted in a non-compliant monthly average effluent concentration limit of parameter TSS which was affected by heavy surface runoffs at swale sampling location. The treatment performance has been maintained and it is confirmed that the effluent concentration criteria have consistently been met. Although it is not possible to accurately establish reserve capacity based on effluent concentration, it is our observation that use of the hydraulic annual average flow is the best and most reasonable approximation of reserve capacity.

3.3.5.4 Ripley WWTP Capacity and Current Flows

The hydraulic or volumetric rated capacity of the existing Ripley WWTP is established by ECA No. 3-0724-88-006, amended on September 18, 2009 as **600 m³/day** on an annual average basis.

Table 3.29 identifies the annual average flows for 2016-2018.

Table 3.29 Wastewater Flows 2016-2018 - Ripley

Year	Annual Average (m ³ /day)
2016	321
2017	341
2018	309
3 Year Average	324

3.3.5.5 Ripley Total Reserve Capacity

Table 3.30 Reserve Capacity - Ripley

Description	Units	Value	Calculation
Capacity	m ³ /d	600	-
Average Day Flow	m ³ /d	324	-
Total Reserve	m ³ /d	276	600 m ³ /d - 324 m ³ /d
Customer Usage	m ³ /d/ERU	0.9	324 m ³ /d / 359 ERU
Committed Reserve	m ³ /d	195	220 ERU X 0.90 m ³ /d/ERU
Uncommitted Reserve	m ³ /d	81	276 m ³ /d - 195 m ³ /d
	ERU	90	81 m ³ /d / 0.90 m ³ /d/ERU

The committed reserve for Ripley includes a significant number of proposed developments. These developments, in addition to the infill lots included as committed reserve, would essentially see most of the available land within the Ripley settlement area developed.

3.3.5.6 Ripley Total Reserve Based on Average Concentration

The ECA No. 3-0724-88-006 stipulates effluent concentration objectives and effluent concentration limits for the system.

From 2016-2018, there were no non-compliant averages during lagoon discharge. The treatment performance has been maintained and it is confirmed that the effluent concentration criteria have consistently been met. Although it is not possible to accurately establish reserve capacity based on effluent concentration, it is our observation that use of the hydraulic annual average flow is the best and most reasonable approximation of reserve capacity.

3.3.6 Summary

This assessment looked at the capacities of the following major water and wastewater facilities that are servicing the communities of Lucknow, Ripley, and Lakeshore:

- Water Treatment Systems
- Water Storage Facilities
- Wastewater Treatment Plants

Table 3.31 Uncommitted Reserve Capacity Based on Rated Capacity

System	Location	Rated Capacity (m ³ /d)	Current Usage (m ³ /d)	Total Reserve (m ³ /d)	Committed Reserve (m ³ /d)	Uncommitted Reserve (m ³ /d)	Uncommitted Reserve (ERU)
Water Supply	Lucknow	1,500	1,147	353	217	136	79
	Ripley	2,618	696	1,922	423	1,499	769
	Lakeshore N ¹	5,741	3,335	2,406	710	1,696	423
	Lakeshore S ¹	5,893	3,744	2,149	504	1,645	683
Wastewater	Lucknow	750	605	145	130	15	15
	Ripley	600	324	276	195	81	90

Notes: 1. Lakeshore N and S based on pressure zone division at the 6th Concession. Huronville S and Murdoch Glen Wells serve the north, Blairs Grove and Point Clark Wells serve the south.

Water supply “firm” capacity deficiencies could be addressed by constructing standby well(s).

The Lakeshore effective storage is less than the Design Guideline recommendations. Currently this is not an issue because rated capacity is typically greater than current usage, therefore peaks can be handled from supply/treatment instead of storage. This may become an issue as growth occurs, at which point a booster pumping station at the standpipe could be constructed to make the full 1,500 m³ as usable/effective storage.

4.0 COMMUNITY FORM AND FUNCTION

An important consideration for future growth and servicing studies is evaluating the compatibility of new development within existing communities. In order to evaluate compatibility, there must be an understanding of the current form and function within the existing communities. The built form and development patterns in the primary and secondary urban areas in Huron-Kinloss have evolved over a long period of time and continue to change. The examination of the form and function of Lucknow, Ripley and the Lakeshore included inventorying community resources and facilities; examining linkages within and between communities; resources in adjacent communities; a review of economic resources and commercial cores; assessing current population and demographics; and documenting community concerns.

Historically, the form and function of the communities in Huron-Kinloss was determined by their location and needs of surrounding residents. The lakeshore was initially a predominately cottage area. Lucknow and Ripley were commercial and institutional centres, supporting the surrounding agricultural areas. Changes in agriculture, transportation, demographics, and the regional economy over time have altered the role of these communities within the Township. It is important to understand the changes in the function of these communities to evaluate how future growth and development may or may not be compatible.

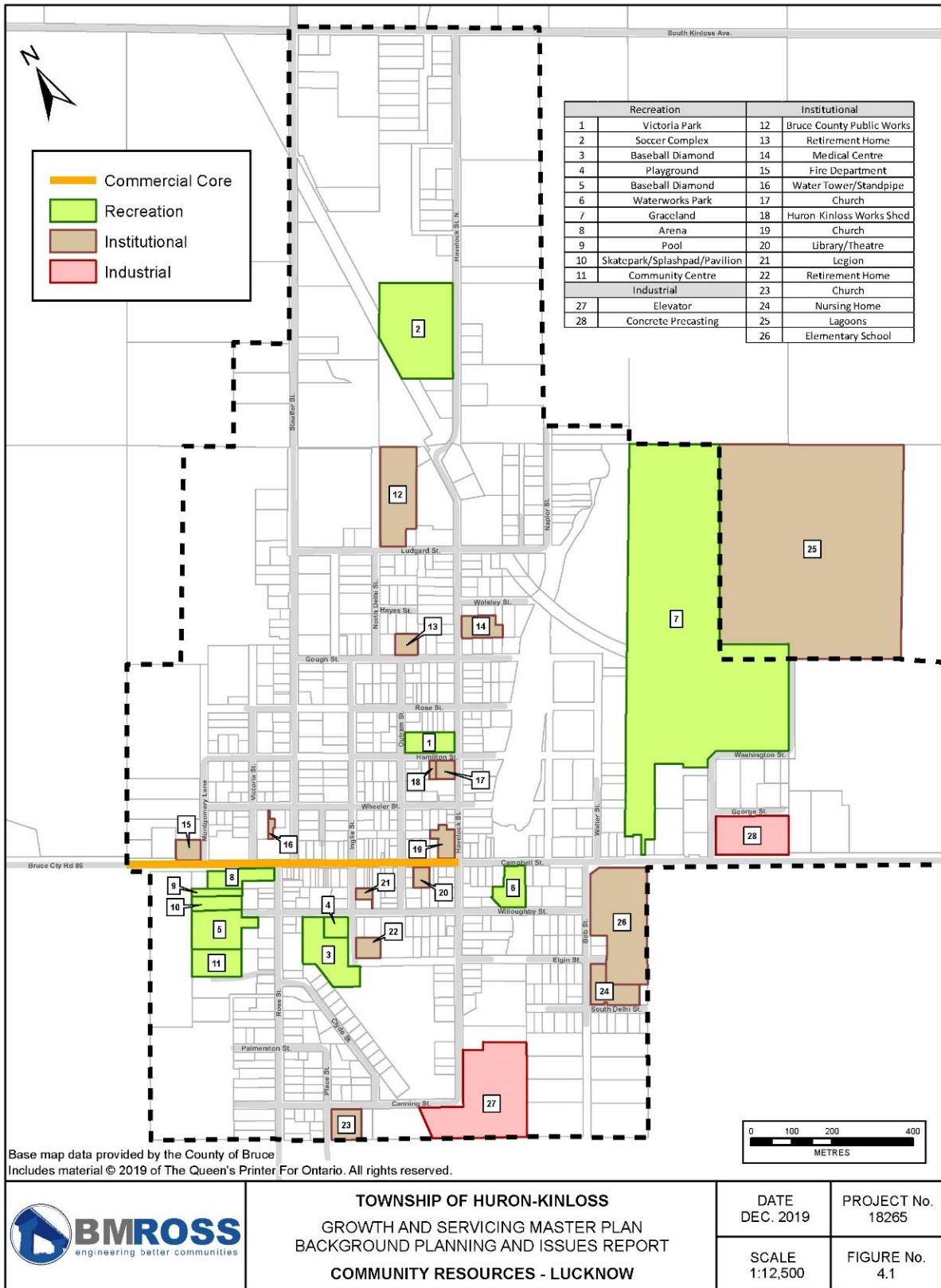
4.1 Lucknow

Lucknow is the largest designated urban centre in Huron-Kinloss. Located at the intersection of Bruce Road 1, Huron Road 1 and Bruce Road 86, it serves as a community hub for residents in both Huron-Kinloss and ACW. It has a downtown core that stretches from the western limit of the community to approximately Havelock Street, along Campbell Street (Bruce Road 86). The core features a mix of historic storefronts, with upper-level residences, residences and commercial uses. In the downtown core, between Stauffer Street and Havelock Street, some of the buildings are occupied and others either have vacant storefronts or are used as residential units. Outside of commercial and residential uses, the core is also home to the Lucknow branch of the Bruce County Library, which shares spaces with the local theatre. The Lucknow and District Sports Complex is located at the southwestern corner of Campbell Street (Bruce Road 86) and Ross Street (Huron Road 1). Adjacent to the arena is a municipal outdoor pool, splashpad, skatepark, volleyball court and ball diamond. The community supports a wide range of commercial, industrial, recreational and institutional resources. The industrial, recreational and institutional resources are mapped on Figure 4.1. The included map also shows the location of the commercial core.

The commercial, recreational and institutions currently available in Lucknow include:



Figure 4.1 Lucknow Community Resources



The community can be characterized by a strong local sense of community and support for local community groups. There a wide range of social and community groups, including a Legion branch, Kinsmen group, Agricultural Society, 4H groups, Huron Ashfield Wawanosh Kinloss Theatre group, Horticultural Society, Lions Club, slo-pitch leagues and hockey leagues. The community is also known for the volunteer efforts that support the annual Music in the Fields festival.

In addition to the resources identified within the community, there several facilities and businesses associated with Lucknow that are located outside of urban boundary. In ACW, south of the urban boundary, there are businesses along Huron Road 1 that provide employment and services to residents of Lucknow, including: Lucknow Co-op, Lucknow Welding (Helms), Huron Landscaping, Andrews Dairy, Hackett Farm Equipment and Brindley Auction Services. To the west of Lucknow is Roberts Farm Equipment. There is also an elementary school located just outside of Lucknow, Brookside Elementary, that some residents have enrolled their children in.

Lucknow is located approximately 18 km west of Wingham, in the Township of North Huron. Wingham serves as a commercial and service centre for residents of the eastern portion of the Township, including Lucknow. For residents of Lucknow, there are additional employment opportunities in Wingham, at places such as Westcast and Britespan. Wingham also has some community features that are not available in Lucknow, including a hospital, public secondary school and grocery store. Many residents of Lucknow travel to Wingham for shopping, medical and education purposes. Goderich is another community that people of Lucknow travel to, for employment, shopping, medical and other services. There is likely also a contingent of the population that travel to Bruce Power, north of Kincardine for work.

From a residential standpoint, Lucknow provides the most variety in the types of available housing in Huron-Kinloss. Generally, the residential areas of Lucknow extend north and south of Campbell Street. The housing stock in Lucknow includes single detached dwellings, apartment units and other multi-units. Lucknow has the most apartment units of any community in Huron-Kinloss. There are also two retirement residences, Nine Mile Villa and Sepoy Manor, and a nursing home, Pinecrest Manor. The stock of residential homes in Lucknow consists primarily of homes built pre-1970, including many older historic homes and smaller war-time bungalows. Historically, the supply of homes in Lucknow has been considered more affordable compared to other nearby communities such as Kincardine and Goderich; however, there is relatively low migration in and out of the village and low numbers of new residential stock built.

The most recent census count (2016) by Statistics Canada, estimates the population of Lucknow at 1,121 persons, which is a decrease of 41 people from the 2006 population (1,162) (Statistics Canada, 2017). Overall, the population of Lucknow has remained relatively steady. This is likely attributed to its function as an urban centre for local rural areas, the presence of local employers, and long-term residency. The average age of the population of Lucknow is 48.6, somewhat older than the provincial average of 41 (Statistics Canada, 2017).

Over the past 20 years, there has been 29 building permits issued for new residential development. This equates to an average of 1.5 new homes per year. However, between 2016 and 2018, there were no permits for new homes issued for Lucknow. Residential growth in Lucknow in recent years has been limited to construction of new residences on existing infill lots.

It is not expected that the population of Lucknow will change dramatically over the next 20 years, based on an aging population and low annual growth in the number of new residences. Currently, the average household density in Lucknow is 2.32 persons per residential unit. If new residential development continues at the current pace of 1.5 new units on an annual basis, over the next twenty years it is expected that the number of households in Lucknow will increase to 603 from the current estimated 563 residential units. It is expected that generally, most new development in Lucknow will also continue to be in the form of single detached units. Any new multi-unit developments, such as townhouses or triplexes are expected to be similar in style to the existing multi-unit residences in the community.

From the examination of the community, there are several concerns and issues related to the form and function that were identified. These include:

- 
Absence of a grocery store - residents leave to do shopping elsewhere
- 
Vacant storefronts in downtown core
- 
Maintaining community volunteer groups and efforts with aging population
- 
Some of the housing stock is looking tired and worn
- 
Lack of new residential growth
- 
Maintaining and supporting community resources (school, bank, library, etc.)

4.2 Ripley

Ripley is the smaller of the two urban communities in the Township of Huron-Kinloss. Prior to amalgamation, Ripley was the urban centre for the Township of Huron. It served as a service and commercial centre for the surrounding rural area. It is small, relatively compact village located at the intersection of Bruce Road 6 and Bruce Road 7. The community was established in the late 1800s and much of the central area of the village features homes and commercial

The streets in Ripley are arranged in a grid outward from the main intersection, interrupted only by the former railroad track through the community. Ripley has a downtown core that is south of the intersection of Queen Street (Bruce Road 6) and Huron Road (Bruce Road 7). It is a relatively small downtown area, but it includes both sides of Huron Street from Queen Street to Jessie Street. Some of the buildings in the core include secondary storey apartments or living areas. There are relatively few commercial and industrial businesses in the community to support local employment, and as a result there are a several empty storefronts in the downtown core. The community maintains several recreational and institutional services including: an elementary school, public library, medical clinic, arena, curling club, parks and trails (see Figure 4.2). The commercial, industrial, recreational and institutional features of Ripley are summarized in the following figure:



Commercial/Industrial

- Restaurants
- Bank
- Convenience Stores
- LBCO outlet
- Telecommunication Provider
- Electrical and plumbing contractors
- Feed Mill
- Mini-storage
- Post Office
- Funeral Home
- Veterinary Clinic
- Law Office
- Hardware supply
- Community Organization Offices



Recreational

- Lewis Park
- Playground Equipment
- Ball Diamond
- Curling Club
- Sports Complex
- Skate Park
- Basketball Court
- Tennis Court
- Splash Pad
- Pavilions
- Soccer Fields
- Lewis Trail
- Apple Rail Trail
- Community Food Garden



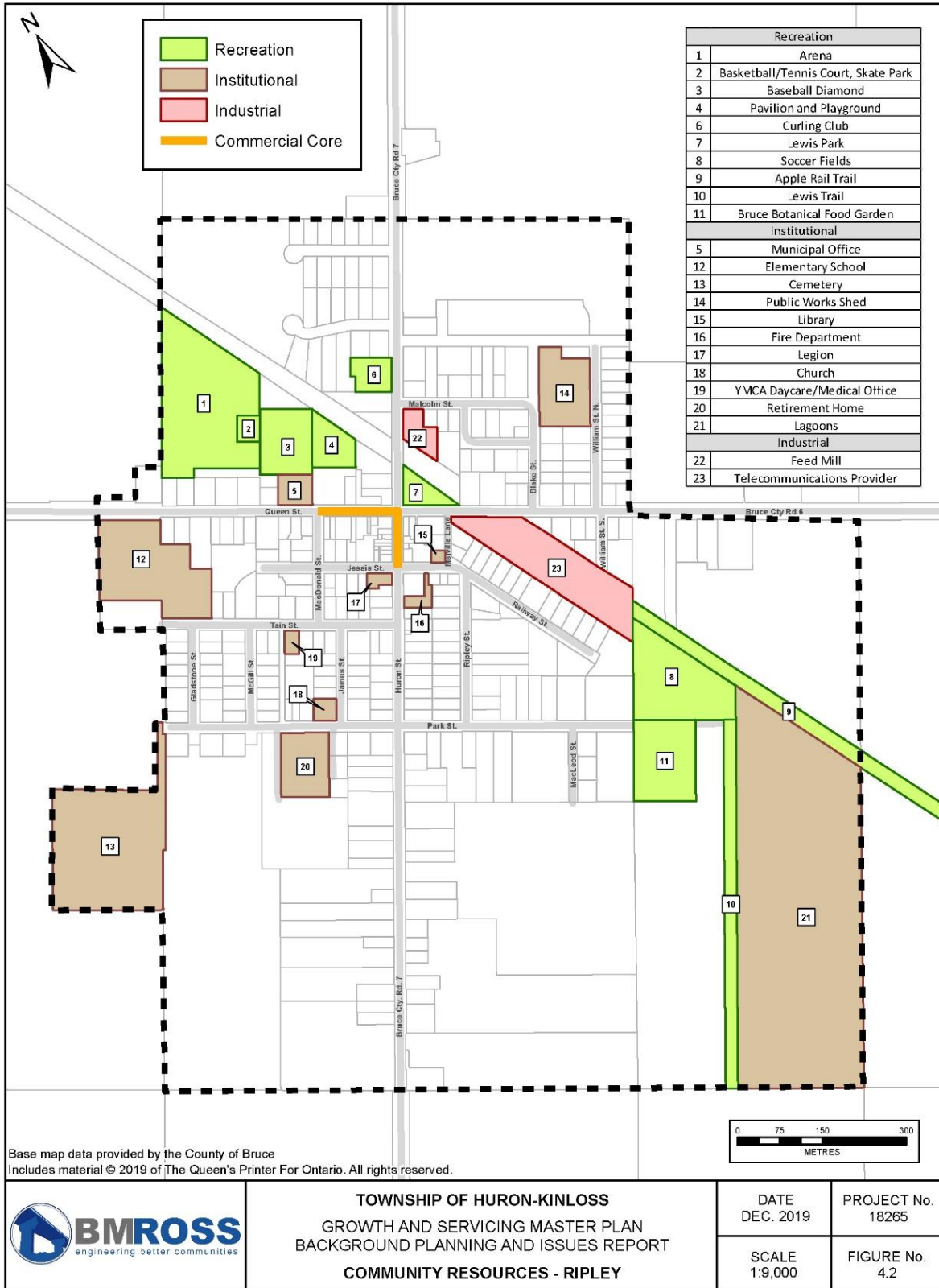
Institutional

- Municipal Office
- Library
- Elementary School
- Church
- YMCA Childcare
- Medical Office
- Legion
- Fire Department
- Cemetery

Ripley can be characterized a rural village, where residents have a strong connection to the community and its history. There are many older homes, built prior to 1920 in the community, that have been maintained and give a sense of history to the village. Similarly, the former commercial buildings along Queen Street, east of Huron Street, have historic features and despite being unoccupied, are important landmarks. For many residents, there are strong family ties to the community that also support the sense of community. The small size of the village also helps to foster a sense of community. Like Lucknow, there are numerous community groups made up of residents: Lions Club, Agricultural Society, 4H groups, Women’s Institute, Horticultural Society, Legion, and sport groups.

There are some local employers located in Ripley (Hurontel, Hensall Co-op, Township of Huron-Kinloss), but most residents are employed outside of the community, in Kincardine, at Bruce Power, or in Goderich. These larger urban centres also have shopping and services that are not available in Ripley. Most teenagers attend public secondary school in Kincardine, with a small number choosing to go the high schools in Walkerton or Wingham. For healthcare, there is a medical clinic in Ripley but it is serviced by a single doctor once a month. For residents who need emergency care or have a different doctor, they must travel to either Kincardine, Wingham or Goderich for emergency care or to the medical clinics in Kincardine, Lucknow, Wingham or Goderich for non-urgent health needs.

Figure 4.2 Ripley Community Resources



Most residences in Ripley are single, detached units. There is one apartment building and a number of recently constructed single storey row houses and duplexes. There is also a retirement home (R-Villa) that provides lodging for seniors. Large brick homes built between 1880 and 1920 make up a significant portion of the housing stock in Ripley.

Following the development of the nuclear power plant north of Kincardine in the 1960s, there was another phase of development. Between 1960 and 1980, a number of single storey and split-level bungalows were constructed along the east end of Park Street, Gladstone, William and Blake Streets. More recently, duplexes and row housing geared towards seniors have been built throughout Ripley. These residences are attractive to single seniors and those who want to retire from farm properties into the community. Historically, Ripley is where many local seniors retire to. The relatively low cost of housing (compared to Kincardine) also attracts young persons buying their first homes and families who wish to be near the local school.

From the most recent census data (2016), the population of Ripley is estimated at 762 persons. This is an increase of 108 persons from the 2006 population of 654. The population of Ripley has slowly increased since 1981, when the population was 591 persons (Statistics Canada, 2017). The relatively slow growth in population reflects the moderate number of new homes built in the village over the past 30 years. Between 2000 and 2018, there were 25 building permits issued for 53 new residential units in Ripley. This includes several multi-unit type dwellings. In the last 10 years, the average number of new dwellings is 2.4 units per year.

Over the next 20 years, the number of households in Ripley is expected to continue to increase at a rate similar to the 10-year average number of new units. In the next 20 years, it is estimated the number of households will increase from the current 324 to 372 in 2039. It is expected that the increase in households will support an additional 99 persons. Much of this growth is expected to take place on infill lots and new lots available through the opening of unopened road allowances. It is expected that most new dwellings will be single detached dwellings, like the existing housing stock, or row and multi-unit dwellings geared towards seniors. These types of units already exist in Ripley and these dwellings attract single seniors and retirees.

Ripley is a small rural village, and as such, many residents work outside the village and do their shopping outside the village. The result is a depressed downtown core. Other concerns and issues related to the form and function of Ripley are noted below:



Most residents commute out of Ripley for employment and shopping needs



Depressed downtown core with vacant storefronts, some tired looking buildings



Maintaining community volunteer groups and efforts as the population ages



Lack of new residential and non-residential growth to support community resources (school, bank, library, etc.)

4.3 Lakeshore

The Lakeshore area is made up several distinct communities that vary in their size, occupancy, housing styles, and function. Geography is often a major influence in the differences between the communities, specifically whether the area is above or below the shoreline bluff that runs the length of the lakeshore. The form and function of each of the lakeshore communities is summarized below.

The lakeshore communities, or the lakeshore settlement area, is not recognized as a population centre by Statistics Canada. This, in combination with a significant number of seasonal dwellings, makes it difficult to estimate the population along the lakeshore. An approximate population of full-time residents was derived from census dissemination block counts along the lakeshore. These counts are considered approximate as they may include some areas outside of the Lakeshore as a result of the boundaries of the dissemination blocks extending west of Lake Range Drive.

From the 2016 Census dissemination block counts, the estimated full-time population along the lakeshore is 2,670 residents occupying 1,160 dwellings (Statistics Canada, 2017). This equates to an average household density among full time residents of 2.3 persons per unit. Between 2011 and 2016, the population of the Lakeshore is estimated to have increased by 279 persons. The increase in the permanent population corresponds with the higher number of building permits issued for new residential development along the lakeshore, compared to other areas of Huron-Kinloss. There have been 421 building permits for new residential development in the last 19 years along the lakeshore compared to the 25 and 29 in Ripley and Lucknow respectively.

In the latest iteration of the Development Charges, it was estimated that there have been 31.3 new units built on an annual average along the lakeshore. Over the next twenty years, it was forecasted that an additional 625 permanent and seasonal dwelling units will be built. The forecasted increase in population is an additional 748 permanent residents and 715 seasonal residents. It is expected that most of the future development along the lakeshore will be in the form of single detached units, given the absence of a municipal sewage system to support higher density development.

4.3.1 Point Clark

Point Clark is the largest lakeshore community both in terms of the number of dwellings and size. It stretches from the Pine River south to the boundary with ACW. This is also the area where there is the greatest amount of land between Lake Huron and the shoreline bluff. The area is relatively flat and extensively treed, despite the density of housing. Lake Range Drive and Huron Road are the main north-south roads in Point Clark. The road network is somewhat random in arrangement, with many streets ending in cul-de-sacs. Most of the development in Point Clark is south of Concession 2, with an established woodland separating the southern part of Point Clark from the north.

There majority of the area is developed with a mix of permanent and seasonal homes. In the past, most of the dwellings in Point Clark were seasonally occupied but over the years an increasing number of homes are lived in all year. Recently, the proportion of the homes occupied permanently outnumbered the number of cottages. The styles and ages of homes in

Point Clark vary widely, with some old cottages remaining and many new homes as well. Most residences, regardless of occupancy are single, detached units.

There are a few commercial uses within the community, including a restaurant, two realty offices and a seasonal ice cream shop. There is no distinct commercial area or downtown, the focal point of the community is the lighthouse and harbour, with only the ice cream shop located nearby. Given the size of the community, there are numerous parks for residents including: Blue Park, Attawandaron Park, Lions Park and Lighthouse Park. These parks feature a variety of amenities including playground equipment, pavilions, and tennis and basketball courts. At the north end of Point Clark, there is a small church, hall and cemetery. Located along Lake Range Drive, roughly halfway between Concession 2 and 4 is a community centre, baseball diamond and dog park. Other recreational amenities include the Point Clark boat club and numerous walking trails (see Figure 4.3A).

Point Clark attracts cottagers (short term renters and families) as well as many young families and retirees. The historic Lighthouse and sandy beach are also tourist attractions. The lakeshore area along Huron Road, Victoria Road and Lakeside Trail has a mix of permanent homes and cottages, of various sizes and ages. There is a wide variety of lot sizes throughout Point Clark, with many older cottages and homes on smaller lots and more recent development on larger parcels.

There is currently a new subdivision (Sunset Place) being developed in the southern end of Point Clark along Huron Road. This is the most recent large development, with the last one prior built in the late 1980s early 1990s (Ferguson subdivision). Generally, development in Point Clark has taken place on existing infill lots. This area, like Heritage Heights and Inverlyn Lake has experienced more residential development in the last 20 years than the other Lakeshore areas. This is a function of the availability of existing lots. In the last 20 years, there has been 106 building permits issued for new residential development in Point Clark. The new development includes new permanent homes as well as new cottages.





There are very few employment opportunities within Point Clark. Most residents commute to Kincardine, Bruce Power or Goderich for employment. Kincardine and Goderich are where most residents go to shop. Elementary school aged children are bused to either Ripley or Kincardine. The nearest secondary school is in Kincardine.

Residential development is expected to continue in Point Clark, as there is a supply of existing infill lots. Most future development will likely be single detached dwellings and is likely to be support the trend towards more permanent residences. Along the lakeshore, it is anticipated that the small old cottages will continue to be replaced by either larger, new cottages or homes. There are some larger vacant parcels between Abenaki and Seneca Streets that could potentially be subdivided and one north of Hunt Club Drive that is approved for 9 units. It is likely that despite the absence of employment and commercial opportunities, Point Clark will continue to attract families, retirees and seasonal residents. The availability of housing, infill lots, cost comparative to the other Lakeshore areas and Kincardine, and quiet, suburban setting are expected to drive demand.

Figure 4.3A Lakeshore South Community Resources



The mix of permanent and seasonal residents, families and retirees creates a unique community along the lakeshore. Associated with this unique community are a number of concerns and issues related to its form and function:

-  Impacts of increased permanent residency on septic systems, water demands
-  Limited opportunities for development beyond infilling due to significant woodland features
-  Conflict with adjacent agricultural uses (e.g. odours)
-  Residents must drive elsewhere for services, may become problematic as population ages

4.3.2 Lurgan Beach

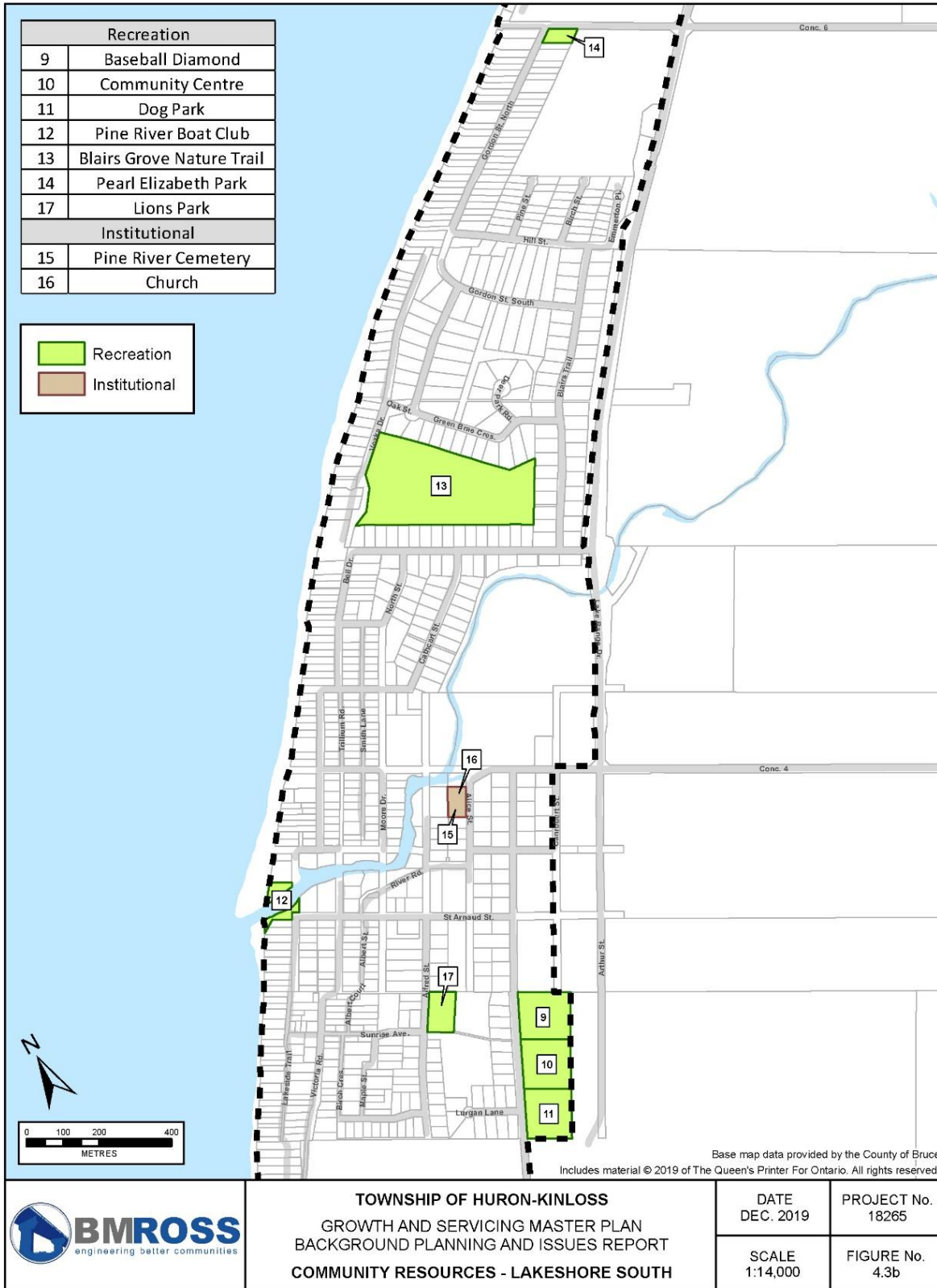
The Lurgan Beach area is a small residential area between Bell Drive and the Pine River. The community is historically a cottage area, with many small family cottages located on the sandy dunes. Many of the lots in this area are small and narrow, and most have been developed. Most of the permanent homes in the area are located along Cathcart Street and Bell Drive. There is a park for residents between North Street and Cathcart Street. Langdon Park features tennis courts, mini-basketball courts and playground equipment (see Figure 4.3B). There is also a boat club at the mouth of the Pine River.

Compared to Blairs Grove to the north, Lurgan Beach is older and more established as a cottage community. There are fewer trees, by nature of the sandy dunes in the area and the cottages are generally smaller and more rustic. Growth in this area over the past 20 years has been minimal. This is due to the low supply of vacant lots for development. It is not expected that there will be much more additional growth in this area, as it is essentially built out. Unlike other areas along the lakeshore, relatively few of the cottages have been converted into permanent homes. In the future, the conversion of cottages to homes may be driven by need and absence of available lots elsewhere along the lakeshore.

For the immediate future, it is expected that the area will continue to be primarily a quiet, cottage area. Given this, the following community concerns and issues have been identified:

-  Redevelopment on small lots
-  Limited opportunities for growth
-  Concerns around lake levels and water quality
-  Conflict with adjacent agricultural use

Figure 4.3B Lakeshore South Community Resources



4.3.3 Blairs Grove

Blairs Grove includes the area between Concession 6 and Bell Drive, west of Lake Range Drive. Some of the streets in this area include: Vozka, Green Brae, Blairs Trail, Gordon, and Hill Street. It is exclusively a residential area. There is a row of lakefront homes and cottages along Gordon Street and Vozka and an interior residential subdivision. The lakefront lots tend to be long and narrow, where the lots east of Vozka and Gordon are often larger lots. The average frontage in this area is approximately 100 feet. The homes along the lakeshore are generally seasonal cottages while most of the homes west of Vozka and Gordon are permanent homes.

Most homes in this area are permanent, single family units and were constructed between 1980 and 2010. Many of the homes are large two-storey homes or split-level bungalows. Lots in Blairs Grove are large and most are extensively treed. This contributes to the relative low density of the area and gives a sense of privacy to the community. Between Bell Drive and Green Brae Crescent is large natural area. This 25-acre greenspace contains a network of trails and interpretive signs that highlight the sensitive dune environment (see Figure 4.3B). None of the parks in Blairs Grove have any playground equipment.

Blairs Grove is home to a mix of families and retirees. Residents commute to Kincardine, Bruce Power, and Goderich for work. Children who live in this area are bussed to elementary school in either Ripley or Kincardine, and to Kincardine for secondary school. Most residents will travel to either Kincardine or Goderich for shopping and other services.

There has been an average of 1.7 building permits per year issued for new residential development in Blairs Grove. The building of new residences in this area has been relatively steady over the last 20 years. There is still a moderate number of vacant lots available for residential development (37 lots) and it is expected that these lots will develop in the future. It is likely that new homes built in this area will be permanent homes, similar in size and scope of the existing homes.

The community concerns related to the form and function of the community are as follows:



Redevelopment of smaller, lakefront lots



Lakefront concerns including water levels and water quality



Very few amenities for residents, e.g. no playground equipment

4.3.4 Bruce Beach

The Bruce Beach stretches from Concession 6 north to Concession 10, between the Lake Huron shoreline and Lake Range Drive. There is a relatively narrow strip of land between the lakeshore and the bluff that has historically been a cottage community. Between Concession 6 and 8, the lakefront area is accessed by private roads like McCosh Hill, Touts Grove Hill, Daveys lane and Snowdon Lane. North of Concession 8, the lakefront properties are accessed via Bruce Beach Road. Along the top of the bluff on the west side of Lake Range Drive there is a single row of properties. South of Concession 8, the bluff-top properties are generally deeper than the ones located north of Concession 8.

The shoreline properties are distinct and separate from the properties above the bluff. Along most of the shoreline, there is just a single row of lots. Most dwellings are seasonally occupied, ranging from small, rustic cottages to larger lakefront homes. These lakefront properties are also heavily treed, contributing to the private, insulated nature of the area.

Along Lake Range Drive, the properties generally stretch from the road to the edge of the bluff. Many of the properties are considered 'lake view' and are separated from the residences below by the heavily treed bluff. The homes along Lake Range vary in terms of size, style and age; however, most are permanently occupied. Homes in this area include split level, bungalows and two-storey homes. Generally, the houses are set back from the road, towards the bluff. Many of the homes along Lake Range were constructed in the 1970s. In the last 10 years, there have been a number of new homes developed near the intersection of Concession 8 and Lake Range. There is a greater density of homes along Lake Range between Concession 8 and 10 than there is between Concession 6 and 8. In that area, the existing properties are larger former farm properties. Permanent residents in this area likely travel to Kincardine or Bruce Power for employment. Children will go to either Ripley or Kincardine for school and to participate in minor sports. Residents likely travel either to Kincardine or Goderich for shopping and services.

The property owners along the lakeshore in this area have a very strong connection to the area and have formed a Beach Association group. This group has many members from the cottage community and is vocal in many municipal matters. The Bruce Beach community owns and maintains private recreational facilities in the area, including a golf course, baseball diamond, and tennis court. A few cottages in Bruce Beach have been converted to permanent residences, but the vast majority remain seasonal residences.

There are relatively few undeveloped lots in this area. Most properties remaining undeveloped in this area are along Lake Range Drive. Many of the undeveloped lots along the lakeshore are constrained by the presence of significant woodlands or their current zoning. There are some larger properties along Lake Range that currently have an existing residence that could potentially be subdivided in the future; however, at this time they are identified based on their current usage. If these properties were subdivided in the future, it is likely the pattern of development would be like existing single row of housing along Lake Range, north of Concession 8.

From the nature of this area, the following community concerns and issues were identified:



Redevelopment on small, lakefront lots



Concerns related to the Lake - water levels, water quality



Conflict with adjacent agricultural land uses



Desire to keep area private and maintain cottage atmosphere



Concerns related to future development in the area

4.3.5 Heritage Heights

Heritage Heights is located between Kennedy Road and Concession 10, between the lakeshore bluff and Lake Range Drive. This area has been built out as a series of subdivision phases, starting in the 1980s with the latest phase constructed in the late 2000s. Lots in this area are large and most are developed with large, two storey homes. The average frontage for a lot in this area is 100 feet. There is one community park for the entire area. It is found in the center of the block formed by Heritage Drive, Parkplace, Gregs Trail and Kris Street. The park, which includes playground equipment, is essentially enclosed by the surrounding residential development and trees and is not visible the roadway (see Figure 4.4). Residents can access the park from Kris Street, Gregs Trail, and Kris Street; however, there is no signage to indicate the presence of the park or the access trails.

Development in the area has generally been from north to south, with Heritage I being the first phase of development. In subsequent phases of development, the homes built tended to be larger. Most homes in this area are permanently occupied by families. This has historically been a subdivision of families with children and the recent phases have continued to attract families. This area also attracts residents looking for newer residential stock.

Many of houses in this area are large and the ground floor elevation of the homes tends to be higher than the road elevation. This seems to emphasize the size of the homes. There are relatively few mature trees in this area, reflecting its relatively recent development. Many homes have large lawns with paved driveways. In the older phases of development, the streets do not have curb and gutter whereas the newer phases do.

This subdivision is a bedroom community, with workers commuting primarily to Kincardine and Bruce Power. Children in this subdivision are bussed either to Ripley or Kincardine and may play minor sports in either community. Many residents will travel to Kincardine for shopping, health care and services.

There are some residential lots left undeveloped in this area, mostly in the Heritage II and I subdivisions. It is expected that these lots will be developed with permanent homes, similar in size and scale to the existing dwellings. There is a proposed new subdivision located north of Heritage Drive, that will see an additional 77 units in the area. It is likely that the houses built in this subdivision will be executive style houses like those built in Heritage IV (Scott Crescent and Snobelen Trail).

The form and function of this community raises the following concerns:

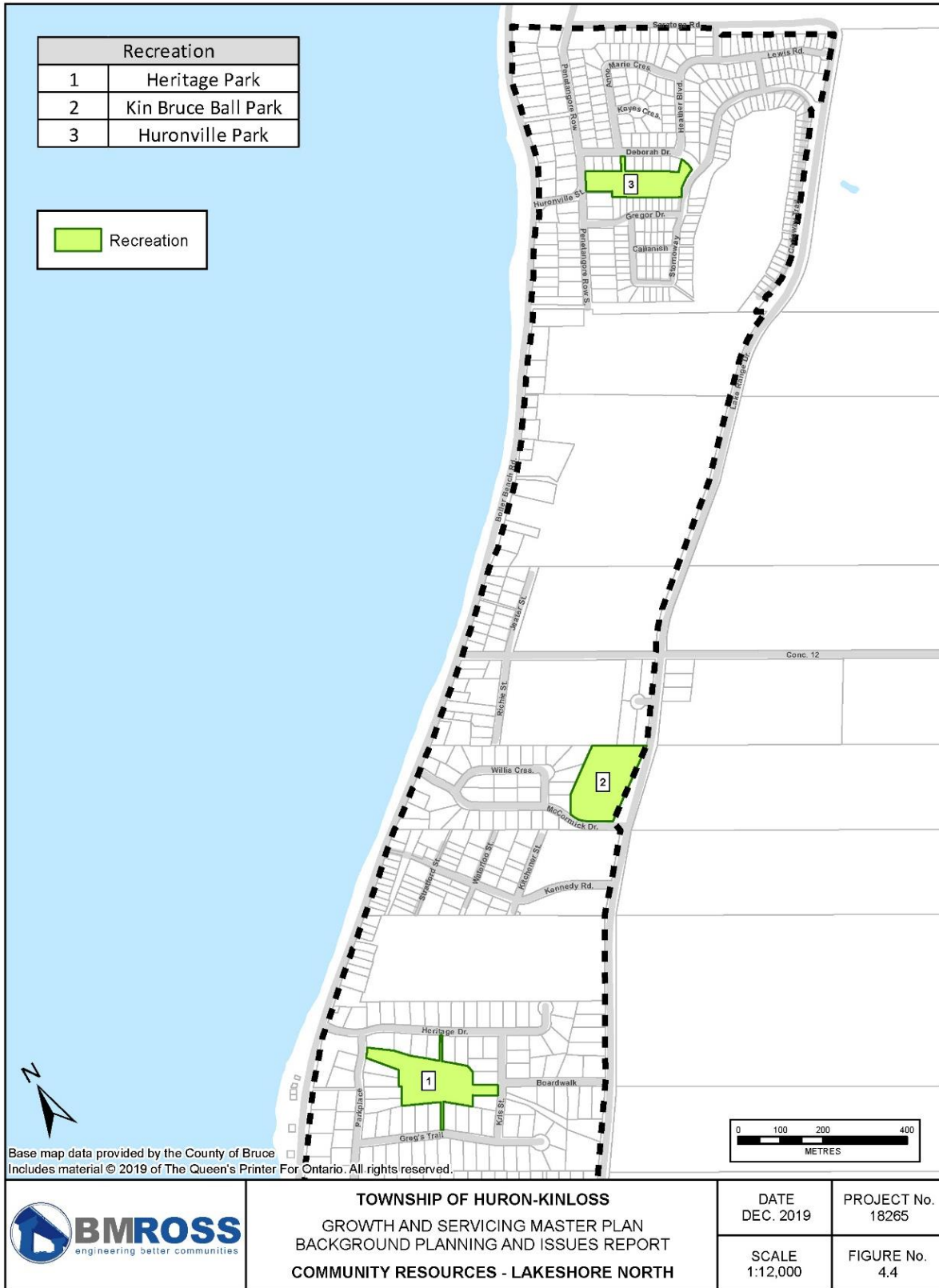


Density of large homes on septic systems



Residents would like to see more parkland and trail development and connectivity

Figure 4.4 Lakeshore North Community Resources



4.3.6 Kin-Bruce

The Kin-Bruce subdivision is an older residential area that includes Kennedy Road, Stratford Street, Waterloo Street, McCormick Drive, Willis Crescent, and Krystal Court. It is located south of Concession 12 and north of the Heritage Heights area. Similar to Heritage Heights and Huronville, it is located on top of the lakeshore bluff, west of Lake Range Drive. This area is a relatively small and compact with most the homes built between the 1960s and 1980s. Most of the homes are permanent dwellings but there are still some cottages in this area.

In this area, lots are moderate in size and accommodate split level homes and bungalows. There are also a few two-storey homes in this area. The landscaping is well established and there are many mature and large trees in the area. At McCormick Drive and Lake Range Drive, there is a ball diamond and playground that services the local community (see Figure 4.4).

Many residents in this quiet area are long time residents and commute out of the area for work. It is suspected that most residents will travel to Kincardine (and Bruce Power) for employment, shopping, secondary school, banking and other services. This subdivision is within the catchment area for the elementary school in Ripley, but some elementary students may attend the Catholic or French Immersion schools in Kincardine. The majority of secondary school students will attend the high school in Kincardine.

There are relatively few undeveloped lots remaining in his area and new building activity has been minimal in the past 20 years. In total there were only 3 building permits issued for new residential development. It appears unlikely that this will change in the future, and it is suspected that other areas will attract growth such as Heritage Heights and Point Clark over Kin-Bruce.

Residents in this area have expressed concern over potential 77-unit residential development south of Kennedy Road. The proposed residential development is similar in style to the newer development in Heritage IV, where the homes are relatively large. These styles of houses are larger and more dense than existing housing stock in Kin-Bruce. The community concerns in Kin-Bruce are:



Impacts of adjacent development - traffic, environmental impacts (septic systems), stormwater management



Impact of new development on remaining cottagers

4.3.7 Boiler Beach

The Boiler Beach area is a single row of development along the east side of Boiler Beach Road from Concession 10 to Saratoga Road. This area is separated from other areas by the lakeshore bluff, and the homes and cottages occupy the narrow band of land between the base of the hill and the road. This area was historically a cottage area, but over the years, many new homes have been built and older cottages removed or repurposed as permanent dwellings. Over the past twenty years the proportion of permanently occupied homes has increased to 70%. The northern portion of this area is serviced with municipal sanitary and water services from the Municipality of Kincardine.

There are a variety of styles of single detached homes in this area, from smaller older cottages, to larger homes especially closer to the boundary with Kincardine. Most properties have landscaped the properties and orientated dwellings to provide a view of the lake across Boiler Beach Road. There is one seasonal trailer park located at the southern end of Boiler Beach. There are very few undeveloped lots in this area. It is expected that in the future these lots will develop, but that will be the extent of development. There is physically no more land in this area for development, as it is constrained by the lakeshore bluff to the east and Lake Huron to west.

Residents are drawn to this area for the lakefront and beach access. Boiler Beach Road is also commonly used as a scenic driving route into Kincardine or an alternative route in the winter months when driving conditions on Lake Range Drive and Highway 21 are compromised.

Similar to Huronville and Inverlyn Lake, it is suspected that most residents of Boiler Beach commute to Bruce Power or Kincardine for work, shopping, schooling and other services. Those residents close to Saratoga Road likely identify themselves as residents of Kincardine instead of residents of Huron-Kinloss. This is less likely the case as you move south towards Concession 10.

The form and function of this community is associated with the following community concerns:



Impacts of lake levels (both high and low)



Narrow, meandering road gives the area character but also creates problems related to parking, speeding.

4.3.8 Inverlyn Lake/Huronville

This area is immediately south of the Town of Kincardine, between Boiler Beach Road and Lake Range Drive. It includes the Huronville subdivision, which was originally built in the 1970s and a newer adult lifestyle retirement community, Inverlyn Lake. Inverlyn Lake is centered around a former quarry that is now a small (23 acre) lake. The community is geared towards retirees and includes a private clubhouse. The homes in the Inverlyn area are newer small, single storey bungalows. The average frontage in this area is 45 feet.

Most homes in the Huronville subdivision were built in the 1970s and 1980s as part of the local building boom associated with the nuclear power plant built north of Kincardine. Many homes are split level or raised bungalows, with garages and paved laneways. The streets are paved, and many homes have mature landscaping with well established trees. The homes are tidy, and the area appears to be a continuation of the Town of Kincardine, as opposed to a separate area. There is a one multi-unit development on the corner of Saratoga Road and Penetangore Row, which is a supported adult residency building.

The community includes a park area, which features a tennis court, volleyball court, basketball court, play equipment and green space. Most residents in this area travel to Kincardine for employment, shopping, schooling, participation in minor sports, and other services. It is unlikely that residents in this area travel to Ripley or Lucknow for services and are likely more engaged within the Municipality of Kincardine than within the Township of Huron-Kinloss.

In the next few years, it is expected that the remaining lots around Inverlyn Lake will be built out. This will see the Inverlyn Lake/Huronville area essentially completed in terms of residential development. There are two large parcels zoned for residential growth south of Inverlyn Lake; however, both these properties are adjacent to a currently operating gravel pit. It is unlikely these properties will develop until the gravel pit ceases operations and is decommissioned. Currently, the timing is unknown. For the immediate future it appears that these areas will remain undeveloped.

The concerns related to the form and function of the Huronville and Inverlyn Lake area of the Township are listed below:



Residents are disconnected from remainder of Huron-Kinloss



Future development opportunities are limited by gravel pit

4.4 Adjacent Community Resources

Residents in Huron-Kinloss travel to adjacent communities for services and opportunities not available within the Township. The adjacent communities most likely to be traveled to are Kincardine, Goderich and Wingham (see Figure 4.5). These are larger towns that have a larger commercial and industrial bases and associated services and are within a half-hour drive of Ripley, Lucknow or the Lakeshore.

For residents of Ripley and the Lakeshore, Kincardine and Goderich are commonly travelled to for employment, shopping, services and recreation. Both Kincardine and Goderich have multiple grocery chains, large pharmacies (that include grocery sections), and large format retailers (Canadian Tire, Home Hardware, Rona). These communities also have branches of the major financial institutions, where Ripley only has an RBC. Both communities have hospitals with emergency departments. The downcore areas of Goderich and Kincardine are also more developed, featuring a greater number and variety of small retailers and restaurants that attract residents from Huron-Kinloss. Major employers in and around Kincardine include: Bruce Power (and associated contractors), 7 Acres and Superheat. In Goderich, employers include Compass Minerals, Alexander and Marine General Hospital, and the County of Huron. These communities also host numerous festivals and events that attract Huron-Kinloss residents throughout the year.

Residents in Ripley and the Lakeshore fall within the catchment area for the Kincardine Family Health Team. Some residents may have doctors in Wingham, Lucknow or Goderich, but most will be rostered with a doctor in Kincardine. Similarly, most secondary school aged children in these areas will go to the high school in Kincardine.

Figure 4.5 Adjacent Community Resources



In comparison to Ripley and the Lakeshore area, Lucknow has a greater variety of commercial businesses and services available. Some residents of Ripley and the Lakeshore travel to Lucknow for these services, including access to a medical clinic, pharmacy, banking and hardware supplies. Travelling to Lucknow for these services is likely limited to a selection of Lakeshore residents south of Concession 6, as Kincardine is generally closer.

Residents of Lucknow and the southern portion of the former Kinloss Township are more likely to travel to Wingham for services and employment. Wingham is approximately 20 km east of Lucknow. Wingham is the nearest town to Lucknow with grocery stores, a hospital, and employment opportunities. Major employers in Wingham include Westcast Industries, Britespan, and the Wingham and District Hospital. Teenagers living in Lucknow are bussed to Wingham and the secondary school there. There is limited large format commercial businesses in Wingham and it is likely that residents of Lucknow travel to Goderich for these services.

4.5 Form and Function Summary

Lucknow, Ripley and the Lakeshore are unique communities based on their form and function within the Township of Huron-Kinloss. These areas serve different purposes to different people and have their own challenges and opportunities. The inland communities of Ripley and Lucknow serve as the commercial and recreational hubs of the Township, where the Lakeshore communities are almost exclusively residential areas.

The village of Lucknow is the largest primary settlement area in Huron-Kinloss. It has the largest and strongest commercial and industrial base in the Township, providing employment, service and shopping opportunities for residents and the surrounding agricultural area. Many of the local industries are related to the agricultural sector (e.g. elevator, farm equipment sales and services, and agricultural supply). These businesses are supported by farmers in Huron-Kinloss as well as neighbouring ACW. The commercial core in Lucknow has seen some new development and redevelopment in recent years and is relatively active. This is despite some vacant storefronts along Campbell Street. Lucknow has the greatest variety in terms of types of businesses of the different communities in Huron-Kinloss; however, residents needing certain services (e.g. groceries) must travel to either Wingham, Kincardine or Goderich.

Residential development in Lucknow has been very slow in recent years and the population has remained relatively steady. The population of the community is skewed towards seniors and it is expected that this trend will continue as the population ages. New growth, especially families, will be critical in the future for continued support of local stores and institutions, including the public elementary school. The relatively low availability of houses for purchase and aging housing stock is likely a contributing factor in young persons and families living elsewhere.

Ripley is a small village that is the recreational and institutional hub for the former Huron Township area. There are relatively few employers in the village, but it is home to the Township Office, a public elementary school, arena, post office and library. The commercial core is struggling, with only a few open storefronts. Commercial uses in the village include a restaurant, a variety store, a convenience store, potter, and a bank. Most residents leave Ripley for employment and other services, giving the community the sense of a bedroom community. Similar to Lucknow, there is a strong cohort of seniors living here, due to the availability of single-storey multi-unit residences and a retirement home.

The small population of Ripley makes it difficult for the community to sustain businesses in the commercial core. This is exacerbated by residents commuting out of the village for work and many other daily needs and services. There has been relatively little new development in Ripley, and while there are some significant developments proposed none have proceeded to the stage where lots or houses are available for sale. Future growth would help build and strengthen the support base for the existing businesses and institutions.

The communities of the Lakeshore vary significantly in size, population and form of occupation. Closer to Kincardine and along the top of the shoreline bluff, east of Lake Range Drive, the communities are primarily made up of permanent residents. These areas include Heritage Heights, Kin-Bruce and Inverlyn Lake/Huronville. Most residents in these communities travel outside of the Township for employment, services and shopping. Heritage Heights and Inverlyn Lake/Huronville are two areas that have had significant development over the last twenty years; in Heritage Heights, the development has been in the form of large family residences. In contrast, the development of Inverlyn Lake is driven by the establishment of a retirement lifestyle community. While Inverlyn Lake is approaching capacity in terms of building lots; there are remaining infill lots available for development in Heritage Heights and a large (77 unit) development proposed. It is expected that the Heritage Heights will continue to attract families.

Bruce Beach and Lurgan Beach are the Lakeshore communities that have maintained a strong seasonal population. There has been relatively little in the way of new development in these areas in the last twenty years, reflecting a relatively low number of available lots, especially immediately along the lakeshore. Relatively few cottages in these areas have been converted to full-time home, and these areas maintain a cottage-like look and atmosphere.

Between Bruce Beach and Lurgan Beach is Blairs Grove. This community features a seasonal population along the lakeshore, while further east, most of the residents are permanent dwellings. Similar to the lakeshore communities further north, many of the permanent residents will travel outside of the Township for employment and services. There has been only moderate growth in Blairs Grove in recent years, despite an availability of infill lots.

Point Clark is the largest lakeshore community, with over 1,000 residential properties. This community is unique in that it was previously dominated by seasonal residents; however, in recent years, a greater proportion of the population lives in this area year-round. Compared to the other Lakeshore areas, Point Clark has the greatest amount of land between the lakeshore and its bluff to the east. The community does not have a commercial core and is primarily a residential area. Residents include retirees and families, and the population increases significantly in the summer with the arrival of seasonal residents. The availability of lots, range and mix of housing and availability of homes and cottages for sale attract new residents to the area, in addition to the park-like setting and proximity to the lake. It is expected that development will continue, and will include new cottages; however, it is likely that the proportion of seasonal residents will continue to decrease as more cottages are converted to homes.

5.0 PLANNING ANALYSIS

5.1 Existing Policies and Conditions

5.1.1 Provincial Planning Statement (2020)

The Provincial Policy Statement (PPS) was updated in 2020 and provides guidance and policy direction for the province with respect to planning, development and land uses, issued under Section 3 of the Planning Act. Of interest to the purpose of this review, the PPS includes policies related to rural settlement areas, land use, infrastructure and the management of resources. To aid in the implementation of provincial policies, planning documents prepared by upper and lower tier municipalities, such as Official Plans, must be consistent with the PPS.

Section 1.1 of the PPS sets out policies to achieve efficient and resilient development and land use patterns (Ministry of Municipal Affairs and Housing, 2020). With respect to settlement areas, the PPS promotes expansions within areas adjacent or close to existing settlements to avoid inefficient land use patterns. This supports policy direction to minimize land consumption and servicing costs. Specific policies relating to settlement areas are outlined in Section 1.1.3 of the PPS, including those related to the expansion of urban areas. These policies promote efficient development of infrastructure and land use patterns to ensure the long-term prosperity of communities.

The PPS promotes focusing and directing development to existing settlement areas, specifically opportunities for intensification and redevelopment. New development should have compact form and include a mix of uses and densities. New development should be directed to designated growth areas, where all potential redevelopment and intensification development have been utilized. In settlement areas, the PPS requires municipalities to have a 15-year supply of lands designated for residential development and 5-years supply of lands designated and available for residential development (Ministry of Municipal Affairs and Housing, 2020). The supply of residential lands shall be based on projections of population and growth provided by upper-tier authorities.

Prior to an expansion of a settlement area, the PPS requires that a comprehensive review is completed. This review must demonstrate that growth needs cannot be met through intensification, redevelopment or existing future growth areas; the long-term suitability of infrastructure and public services; minimum distance separation requirements are met; specialty crop areas are not compromised, and there are no reasonable alternatives to avoiding prime agricultural lands. The level of detail of a comprehensive review is to correspond with the complexity and scale of the settlement area boundary expansion. Under the new PPS, municipalities can adjust settlement areas without completing a comprehensive review provided there is no net increase in land within the settlement area; the adjustment supports intensification and redevelopment targets; prime agricultural considerations are met and the new settlement area is serviced and there is sufficient reserve capacity.

Planning policies also identify the need to protect the long-term viability of existing or planned industrial and employment lands from sensitive uses (e.g. residential) and encroachment.

The PPS also speaks to rural areas, and building on the rural character, amenities and assets. This is to be accomplished through supporting a range and mix of housing in rural settlement areas and efficient rural infrastructure. Outside of rural settlement areas, opportunities for

recreation, tourism and economic opportunities should be promoted. Section 1.1.5.7 of the PPS identifies that the rural economy should be promoted by protecting agricultural and resource-related development areas.

The infrastructure to support growth should be provided in a coordinated and cost-effective manner to meet current and future needs. The PPS promotes growth on existing municipal services, but where municipal services are not provided, it allows for individual on-site services as long as site conditions are suitable over the long-term with no negative impacts. The PPS directs Planning Authorities to assess the long-term impacts of individual services on the environment and rural character against when Official Plans are being updated or reviewed. These assessments are also to include an assessment of the feasibility of other forms of servicing. Where municipal services are not available, planned or feasible, private communal water and wastewater services are the preferred form of servicing for multi-unit/lot developments. Partial services are only permitted to address failed systems/services or in settlement areas to allow for minor infilling. In rural areas, partial services may be permitted for existing lots of record where there is a logical and financially feasible connection to an existing system. The extension of partial services into rural areas is only permitted to address failed sewage of water services for existing development.

When determining the direction of expansion, policies within Section 2 (Wise Use and Management of Resources) and Section 3 (Protecting Public Health and Safety) of the PPS must be adhered to. The policies contained within these sections aim to ensure resources are protected and preserved for the long-term viability of the community. The wise use and management of resources includes considerations of natural features and areas, avoidance of significant wetlands and woodlands, and habitat of endangered and threatened species. Development is directed away from designated vulnerable areas related to surface and groundwater, as well as mineral extraction areas. Provincial policy also directs that archaeological and cultural heritage resources should be protected from development (Ministry of Municipal Affairs and Housing, 2020). This section of the PPS (Section 2.3.4) also discourages lot creation in prime agricultural areas, unless for agricultural uses, agriculture-related uses, infrastructure or surplus residences.

Section 3 of the PPS directs development away from areas considered public health and safety risks. These hazards include dynamic beaches, flooding, erosion, mines, and oil and gas operations (Ministry of Municipal Affairs and Housing, 2020). Upper and lower tier Official Plans are tasked with providing direction related to buffers for future development adjacent to these areas in accordance with the PPS.

5.1.2 Bruce County Official Plan (2016)

The Bruce County Official Plan (OP) provides goals, objectives, and planning policies for land use within the County of Bruce. Lower tier official plans are required to conform with the planning direction provided by the County Official Plan, which in turn, must conform with the PPS. The overlying goal of the Bruce County OP is to encourage “orderly physical, social, environmental and economic development” (County of Bruce, 2017).

Natural heritage features and systems are outlined within the Bruce County OP. Policies in the OP direct new development away from these areas to ensure their long-term protection and maintenance of their ecological significance. These policies specify:

- No development within 30 m of a cold water stream;
- No development within 15 m of a warmwater stream;
- No development is permitted within provincially significant wetlands; and lands adjacent to these areas (within 120 m) may only be developed if supported by a site-specific Environmental Impact Study (EIS);
- Development in significant woodlands will only be permitted if an EIS demonstrates no impacts on the habitat/resource function of the wood lot; and
- Development in significant wildlife habitat will be permitted if an EIS demonstrates no impacts on natural features or the ecological function.

Following the policies of the PPS, the Bruce County OP directs growth to primary and secondary urban communities throughout the County. Lucknow and Ripley are considered primary communities, while the Lakeshore of Huron-Kinloss is designated as a secondary urban area. The OP directs that 80% of new growth will take place in the Primary and Secondary areas (County of Bruce, 2017). In Huron-Kinloss, the OP predicts that the population will grow at a slow rate or remain stable as a result of the aging population and slower growth in agricultural employment.

To support growth, the Bruce County OP also includes objectives and policies related to the provision of servicing. In primary and secondary settlement areas, full municipal services are the preferred form of servicing (County of Bruce, 2017). Partial services are generally discouraged. The OP promotes the preparation of a Water and Wastewater Servicing Master Plan in conjunction with a new or update to local Official Plan; proposal to expand a settlement area; or a development proposal that could have significant environmental impacts, or significantly impact water quantity in the local aquifer or assimilative capacity of the receiver. In secondary urban areas on partial services, development beyond infilling requires completion of a servicing option statement and a nitrate study if the lots are less than 1.0 acre in size (County of Bruce, 2017).

The OP specifies that most residential, major institutional, commercial, education, industrial, cultural and recreational development will be directed to the primary settlement areas. Currently, it is assumed that most growth will be accommodated within the existing urban settlements; however, if additional growth lands are proposed a justification study for the expansion of the settlement area and servicing strategy must be completed. The secondary settlement areas, like the Huron-Kinloss shoreline, are expected to support a more limited range of residential, economic and social services compared to the primary settlement areas. The OP specifies that “all Secondary Urban Communities shall ultimately be serviced with Municipal water supply and distribution and sewage collection and disposal systems” (County of Bruce, 2017).

5.1.3 Huron-Kinloss Official Plan

The Township Official Plan applies to the primary, secondary and hamlet areas in the Township. Rural areas in Huron-Kinloss are governed by the policies in the Bruce County Official Plan. The Township OP directs that most of the future growth be directed to Lucknow and Ripley. The Official Plan predicts that the population of the Township will increase to 8,321 persons by 2036 with 5,217 dwellings. This is an increase of 1,132 persons from the estimated 2016 population of 7,189 and 4,170 dwellings (Township of Huron-Kinloss, 2016). The OP proposes that 30% of new housing in Ripley and Lucknow is in the form of medium and high-density housing.

In the Lakeshore, the OP permits infilling and minor rounding out but outlines that it is not the intent of the Plan to prohibit new development including Plans of Subdivision. In the Lakeshore Settlement Area, it is the policy of the OP that development will be serviced by the municipal water system and private septic systems. The minimum lot size will be 1,850 m², any smaller lots will require completion of a nitrate study. A density of 5 units per gross developable hectare is to be the standard (Township of Huron-Kinloss, 2016). Greater densities may be permitted, providing compatibility and the availability of communal services.

The OP promotes that the Township work towards providing a 10-year supply of serviced, draft approved and registered lots and units, and a 20-year supply of residentially designated lands, to accommodate projected housing demand. Any expansion of the settlement areas will require the completion of a comprehensive review.

Similar to the County OP, the policies of the Township OP do not permit development within significant wetlands, threatened or endangered species habitat, or hazard lands. In Lucknow, this includes floodway lands. In flood fringe lands, development may be permitted, but will require floodproofing and permits. Generally, the flood fringe is considered constrained for the purposes of development.

5.1.4 Minimum Distance Separation (MDS)

In order to ensure that there is adequate separation between livestock barns, manure storage facilities and anaerobic digesters from adjacent land uses, a Minimum Distance Separation (MDS) calculation is used. The MDS formulae were developed by the Ontario Ministry of Agricultural and Rural Affairs (OMAFRA) to calculate the required setback for proposed new development (MDS I) and for proposed new or expansions of existing livestock facilities (MDS II) (Ontario Ministry of Agriculture, Food and Rural Affairs, 2016).

The intent of MDS is to minimize conflict between land uses and reduce complaints related to potential odours from livestock and manure facilities. Separation distances calculated using the formulae are based on the type of livestock housed; potential number of livestock housed (barn capacity or lot size); percentage of increase in the size of the operation; type of manure system and storage; and the type of encroaching land use. These variables will determine the minimum setback between the livestock or manure facility and the proposed development.

Prior to any land use planning approval adjacent to a property with a barn, manure storage, or an anaerobic digester, an MDS calculation must be completed to determine the required setback. In relation to the expansion of a settlement area, Section 1.1.3.8 the Provincial Policy Statement (2014) states that any expansion to a settlement area is required to conform with MDS setbacks.

5.2 Analysis of Potential Growth Lands

To assess areas around the settlement areas as potential future growth areas, a constraint and opportunity exercise was undertaken. Constraints and opportunities relating to environmental, planning and infrastructure factors were considered and assessed. For each category of factors, potential constraints or opportunities were mapped. The constraints and opportunities for the factors were then combined to see areas which could be further investigated for the future expansion of the urban boundary. For the purposes of this report, the constraints and opportunities for each factor are discussed individually. The combined analysis is discussed in Section 5.2.4.

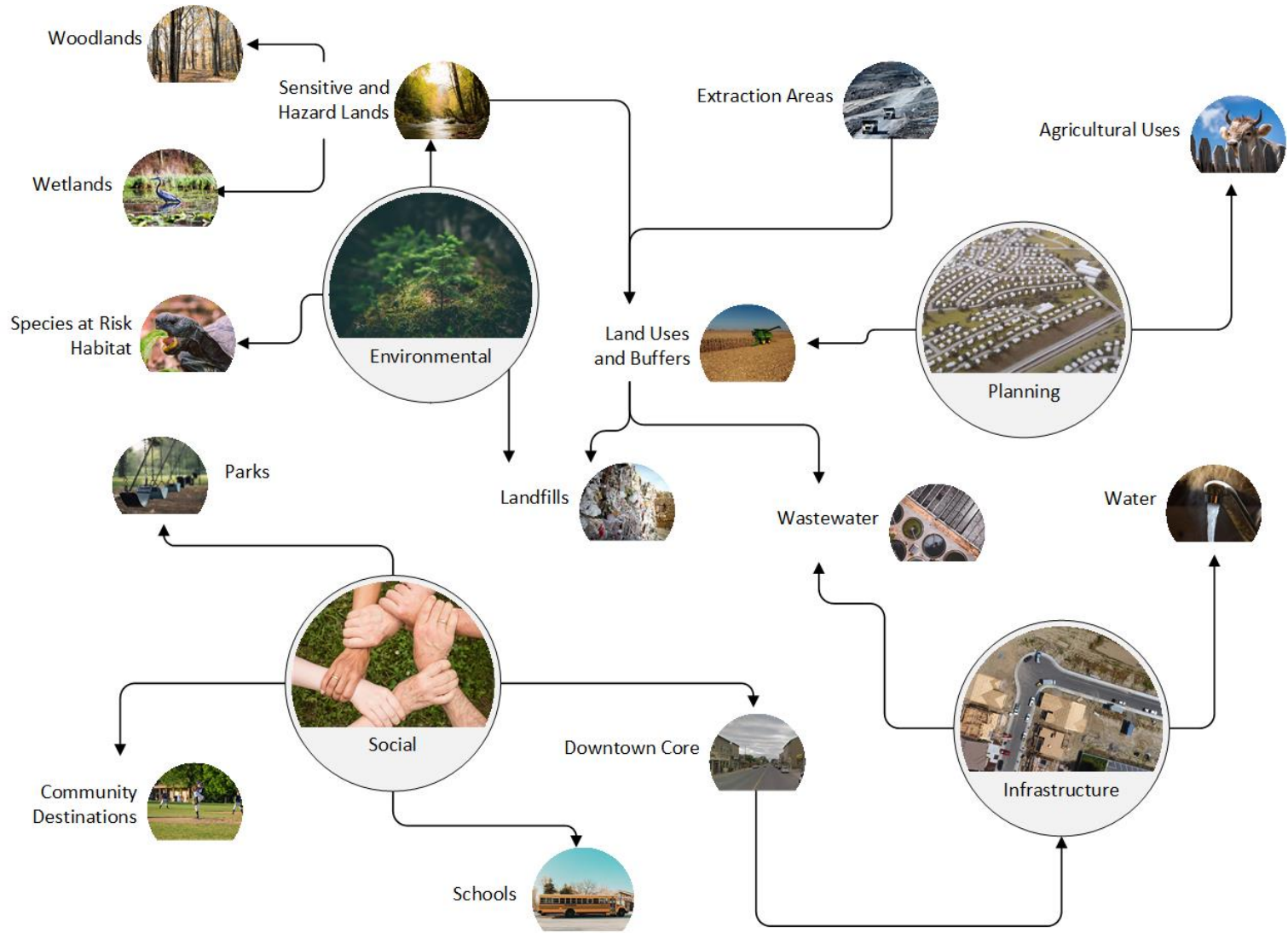
The criteria considered for each factor are shown in Figure 5.1. The analysis of potential future growth lands must incorporate a wide range of criteria, some of which are considered only in terms of restrictions (such as significant wetlands) and others which may be a constraint in one area and an opportunity in another (such as water infrastructure). Some of the criteria overlap or are related, such as lands identified through zoning as hazards coincide with natural environment features such as wetlands and significant woodlands. Some specific criteria could not be included in this analysis, but may be incorporated into later, more detailed reviews. For example, impacts related to increased traffic on local roads and intersections were not considered. For the environmental, planning, and infrastructure factors, the criteria were mapped and are discussed in the follow sections. It should be noted that cultural factors, such as the potential for archaeological and cultural heritage resources have not been mapped. This is due to the site-specific nature of identifying potential for archaeological and cultural heritage resources.

Around the settlement areas of Lucknow and Ripley, water and wastewater infrastructure constraints were identified. These constraints are identified solely on the basis of topography. The analysis of infrastructure included a cursory review of the existing extent of water and wastewater services but does not specifically examine collection or distribution pipe capacities. Such an analysis would require modelling of these systems and this is beyond the scope of this assessment.

The assessment of infrastructure constraints was not undertaken for the Lakeshore. This is due to the absence of a municipal wastewater collection system along the lakeshore. For the Lakeshore Water System, the system has been extended throughout the existing communities and along much of Lake Range Drive. Within the existing settlement area, there is watermain along all the local roads. This means that most undeveloped properties could connect with relatively short extensions of existing watermains. North of Concession 6, along Lake Range, there is a trunk watermain that would likely be able to supply lands on the east side of Lake Range.

This evaluation has been completed at a broad spatial scale, primarily from a desktop setting using 2015 aerial photography. It is intended to guide future, more detailed studies and to support long-term municipal planning efforts. Many of the assumptions made in this report should be further evaluated and investigated in a more detailed manner and prior to any expansion of the urban boundary, a comprehensive review will have to be undertaken. It should be noted that changes in land use since 2015 are not represented in the mapping included in this report. Also, moving forward it should be recognized that changes in land use, such as construction of industrial or agricultural facilities could impact the feasibility of future growth in specific areas.

Figure 5.1 Factors Considered for Analysis



5.2.1 Environmental Considerations

The analysis of environmental considerations included the identification of environmentally protected or hazard lands, watercourses, aggregate areas, and former landfill sites. Environmentally protected areas include significant wetlands and significant woodlands. Natural environment features were identified utilizing mapping available from Natural Heritage Information Centre (NHIC) mapping tool, provided by the Ministry of Natural Resources and Forestry; Bruce County Official Plan; and Huron-Kinloss Official Plan.

5.2.1.1 Species at Risk

To identify critical aquatic species at risk habitat, Department of Fisheries and Oceans (DFO) mapping was consulted. Terrestrial species at risk were identified on an aggregate scale, based on lists provided at a County-scale, from the Ministry of Natural Resources and Forestry. Specific species at risk occurrences as identified from the NHIC mapping were also noted. DFO mapping did not identify any critical habitat or aquatic species at risk within Huron-Kinloss. This is not to say that there are not aquatic species at risk present within Huron-Kinloss. There are many watercourses throughout the Township, including cold-water streams, that may be habitat for species at risk.

A review of available information on terrestrial species and habitat occurrences determined that the study area may contain species and/or associated habitats that are legally protected under Provincial and Federal species at risk legislation.

The protection for species at risk and their associated habitats is directed by the following federal and provincial legislation:

- The Federal Species at Risk Act, 2002 (SARA) provides for the recovery and legal protection of listed wildlife species and associated critical habitats that are extirpated, endangered, threatened or of special concern and secures the necessary actions for their recovery on lands not federally owned, only aquatic species, and bird species included in the Migratory Bird Convention Act (1994), are legally protected (Environment Canada, 2017); and
- The Provincial Endangered Species Act, 2007 (ESA) provides legal protection of endangered and threatened species and their associated habitat in Ontario. Under the legislation, measures to support their recovery are also defined.

Based on the information available for the occurrence of species at risk and their associated habitats from the following sources, a summary of federally and provincially recognized species with the potential to be present within the project study area are listed in Table 5.1:

Type of Species	Common Name	Scientific Name	Federal Status	Provincial Status
Bird	Bald Eagle	<i>Haliaeetus leucocephalus</i>	Special Concern	Special Concern
Bird	Barn Owl	<i>Tyto alba</i>	Endangered	Endangered
Bird	Barn Swallow	<i>Hirundo rustica</i>	Threatened	Threatened
Bird	Bobolink	<i>Dolichonyx oryzivorus</i>		Threatened
Bird	Canada warbler	<i>Wilsonia canadensis</i>	Threatened	Special Concern
Bird	Cerulean Warbler	<i>Dendroica cerulea</i>	Endangered	Threatened

Type of Species	Common Name	Scientific Name	Federal Status	Provincial Status
Bird	Chimney Swift	<i>Chaetura pelagica</i>	Threatened	Threatened
Bird	Common Nighthawk	<i>Chordeiles minor</i>	Threatened	Special Concern
Bird	Eastern Meadowlark	<i>Sturnella magna</i>		Threatened
Bird	Eastern whip-poor-will	<i>Caprimulgus vociferous</i>	Threatened	Threatened
Bird	Golden-winged warbler	<i>Vermivora chrysoptera</i>	Threatened	Special Concern
Bird	Henslow's Sparrow	<i>Ammodramus henslowii</i>	Endangered	Endangered
Bird	King rail	<i>Rallus elegans</i>	Endangered	Endangered
Bird	Least Bittern	<i>Ixobrychus exilis</i>	Threatened	Threatened
Bird	Loggerhead Shrike	<i>Lanius ludovicianus</i>	Endangered	Endangered
Bird	Louisiana Waterthrush	<i>Parkesia motacilla</i>	Special Concern	Special Concern
Bird	Olive-sided flycatcher	<i>Contopus cooperi</i>	Threatened	Special Concern
Bird	Peregrine falcon	<i>Falco peregrinus anatum</i>	Threatened	Special Concern
Bird	Piping Plover	<i>Charadrius melodus circumcinctus</i>	Endangered	Endangered
Bird	Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Threatened	Special Concern
Bird	Short-eared Owl	<i>Asio flammeus</i>	Special Concern	Special Concern
Bird	Yellow-breasted chat	<i>Icteria virens virens</i>	Special Concern	Threatened
Bird	Yellow rail	<i>Coturnicops noveboracensis</i>	Special Concern	Special Concern
Fish and Mussels	American Eel	<i>Anguilla rostrate</i>		Endangered
Fish and Mussels	Black Redhorse	<i>Moxostoma duquesnei</i>	Threatened	Threatened
Fish and Mussels	Fawnsfoot Mussel	<i>Truncilla donaciformis</i>		Endangered
Fish and Mussels	Lake Sturgeon	<i>Acipenser fulvescens</i>		Threatened
Fish and Mussels	Northern Brook Lamprey	<i>Ichthyomyzon fossor</i>	Special Concern	Special Concern
Fish and Mussels	Reside Dace	<i>Clinostomus elongatus</i>	Endangered	Endangered
Fish and Mussels	Pugnose Shiner	<i>Notropis anogenus</i>	Endangered	Endangered
Fish and Mussels	Shortnose Cisco	<i>Coregonus reighardi</i>	Endangered	Endangered

Type of Species	Common Name	Scientific Name	Federal Status	Provincial Status
Fish and Mussels	Wavy-rayed Lampmussel	<i>Lampsilis fasciola</i>	Special Concern	Threatened
Fish and Mussels	Silver shiner	<i>Notropis photogenis</i>		Threatened
Mammal	American Badger	<i>Taxidea taxus</i>	Endangered	Endangered
Mammal	Eastern Cougar	<i>Puma concolor</i>		Endangered
Mammal	Grey Fox	<i>Urocyon cinereoargenteus</i>	Threatened	Threatened
Mammal	Little Brown Bat	<i>Myotis lucifugus</i>		Endangered
Mammal	Northern bat	<i>Myotis septentrionalis</i>		Endangered
Plant or Lichen	Tuberous Indian-Plantain	<i>Arnoglossum plantagineum</i>	Special Concern	Special Concern
Plant or Lichen	American Ginseng	<i>Panax quiquefolius</i>	Endangered	Endangered
Plant or Lichen	American Hart's tongue fern	<i>Asplenium scolopendrium</i>	Special Concern	Special Concern
Plant or Lichen	Broad beech fern	<i>Phegopteris hexagonoptera</i>	Special Concern	Special Concern
Plant or Lichen	American Chestnut	<i>Castanea dentata</i>	Endangered	Endangered
Plant or Lichen	Butternut	<i>Juglans cinerea</i>	Endangered	Endangered
Plant or Lichen	Eastern prairie fringed-orchid	<i>Platanthera leucophaea</i>	Endangered	Endangered
Plant or Lichen	Gattinger's agalinis	<i>Agalinis gattingeri</i>	Endangered	Endangered
Plant or Lichen	Dwarf Lake Iris	<i>Iris lacustris</i>	Threatened	Special Concern
Plant or Lichen	Hill's Pondweed	<i>Potamogeton hillii</i>	Special Concern	Special Concern
Plant or Lichen	Hill's Thistle	<i>Cirsium hillii</i>	Threatened	Threatened
Plant or Lichen	Goldenseal	<i>Hydrastis canadensis</i>	Threatened	Threatened
Plant or Lichen	Houghton's goldenrod	<i>Solidago houghtonii</i>	Special Concern	Threatened
Plant or Lichen	Lakeside Daisy	<i>Tetraneuris herbacea</i>	Threatened	Threatened
Plant or Lichen	Pitcher's thistle	<i>Cirsium pitcher</i>	Endangered	Threatened
Plant or Lichen	Small white lady's slipper	<i>Cypripedium candidum</i>	Endangered	Endangered
Plant or Lichen	Tuberous Indian-plantain	<i>Arnoglossum plantagineum</i>	Special Concern	Special Concern
Reptile	Eastern ribbonsnake	<i>Thamnophis sauritus</i>	Special Concern	Special Concern

Type of Species	Common Name	Scientific Name	Federal Status	Provincial Status
Reptile	Milksnake	<i>Lampropeltis triangulum</i>	Special Concern	Special Concern
Reptile	Queensnake	<i>Regina septemvittata</i>	Threatened	Endangered
Reptile	Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Special Concern
Reptile	Blanding's Turtle	<i>Embydoidea blandingii</i>	Endangered	Endangered
Reptile	Wood Turtle	<i>Glyptemys insculpta</i>	Threatened	Endangered
Reptile	Northern Map Turtle	<i>Graptemys geographica</i>	Special Concern	Special Concern
Reptile	Spotted Turtle	<i>Clemmys guttata</i>	Endangered	Endangered
Reptile	Western Chorus Frog	<i>Pseudacris trsieriata</i>	Threatened	
Invertebrate	Hungerford's crawling water beetle	<i>Brychius hungerfordi</i>	Endangered	Endangered
Invertebrate	Monarch butterfly	<i>Danaus plexippus</i>	Special Concern	Special Concern
Invertebrate	Rusty-patched bumble bee	<i>Bombus affinis</i>		Endangered
Plant or Lichen	Houghton's goldenrod	<i>Solidago houghtonii</i>	Special Concern	Threatened
Plant or Lichen	Lakeside Daisy	<i>Tetranuris herbacea</i>	Threatened	Threatened
Plant or Lichen	Pitcher's thistle	<i>Cirsium pitcher</i>	Endangered	Threatened
Plant or Lichen	Small white lady's slipper	<i>Cypripedium candidum</i>	Endangered	Endangered
Plant or Lichen	Tuberous Indian-plantain	<i>Arnoglossum plantagineum</i>	Special Concern	Special Concern

Four species have been identified as occurring within or adjacent to Lucknow, Ripley and the Lakeshore area in Huron-Kinloss. These species were identified through observation records provided through the NHIC database (Ministry of Natural Resources and Forestry, 2017):

- Snapping turtles are considered a species of special concern provincially and federally. These large turtles live mostly in shallow water, but during nesting periods travel to find gravelly or sandy areas near streams. Often, snapping turtles are found along the gravel shoulders of roads or aggregate pits.
- Bobolink is a threatened bird species provincially, known to occur throughout Huron-Kinloss. The species is found across southwestern Ontario. There is potential for this species to occur in agricultural areas, particularly where there are fallow meadows or hayfields;
- Eastern Meadowlark is another provincially threatened bird species. Similar to Bobolink, Eastern Meadowlark is found throughout agricultural areas of southwestern Ontario, where there are hayfields and grasslands;

- American Chestnut is a tall, deciduous tree species. It is commonly found in areas where there is drier, sandier soil. It is endangered due to a fungal blight, as well as deforestation.

Given the range of potential species at risk within the study area as well as variety of potential types of habitat, ranges of the identified species were not mapped. The potential for species at risk should be considered on a site-specific basis for future planning and development proposals.

5.2.1.2 Lucknow

Within and around Lucknow, there are a number of watercourses and wetland features (see Figure 5.2). Dickies Creek, Kinloss Creek and Anderson Creek flow through Lucknow and converge south of the village to form the Nine Mile River. These are cold water streams and no development is permitted within 30 m of the banks (County of Bruce, 2017). There is also flooding hazards associated with these watercourses, especially Kinloss Creek. The floodway is identified as a hazard, where no new development is permitted. Outside of the floodway is the flood fringe, where flooding is still a potential, however development may occur provided floodproofing is undertaken and the required permits are issued. While properties in the flood fringe may be developed, for the purposes of this exercise, these areas are considered to have development constraints.

Associated with Dickies Creek is the Dickies Creek Swamp. This is a provincially significant wetland located in the eastern and northeastern portion of Lucknow and extended north from the village. The wetland includes the former mill pond and is surrounded by a significant woodland. Within a provincially significant wetland, development is prohibited. Development of lands within 120 m of a provincially significant wetland may only occur if it is demonstrated through an EIS that the proposal will not impact wetland function, conflict with wetland management practices, or result in a loss of wetland area (Township of Huron-Kinloss, 2016). In significant woodlands, development is not permitted unless an EIS demonstrates no negative impacts on natural features or the ecological function of the woodland. For lands within 120 m of a significant woodland, prior to development, an EIS is required to demonstrate no negative impacts on the woodland.

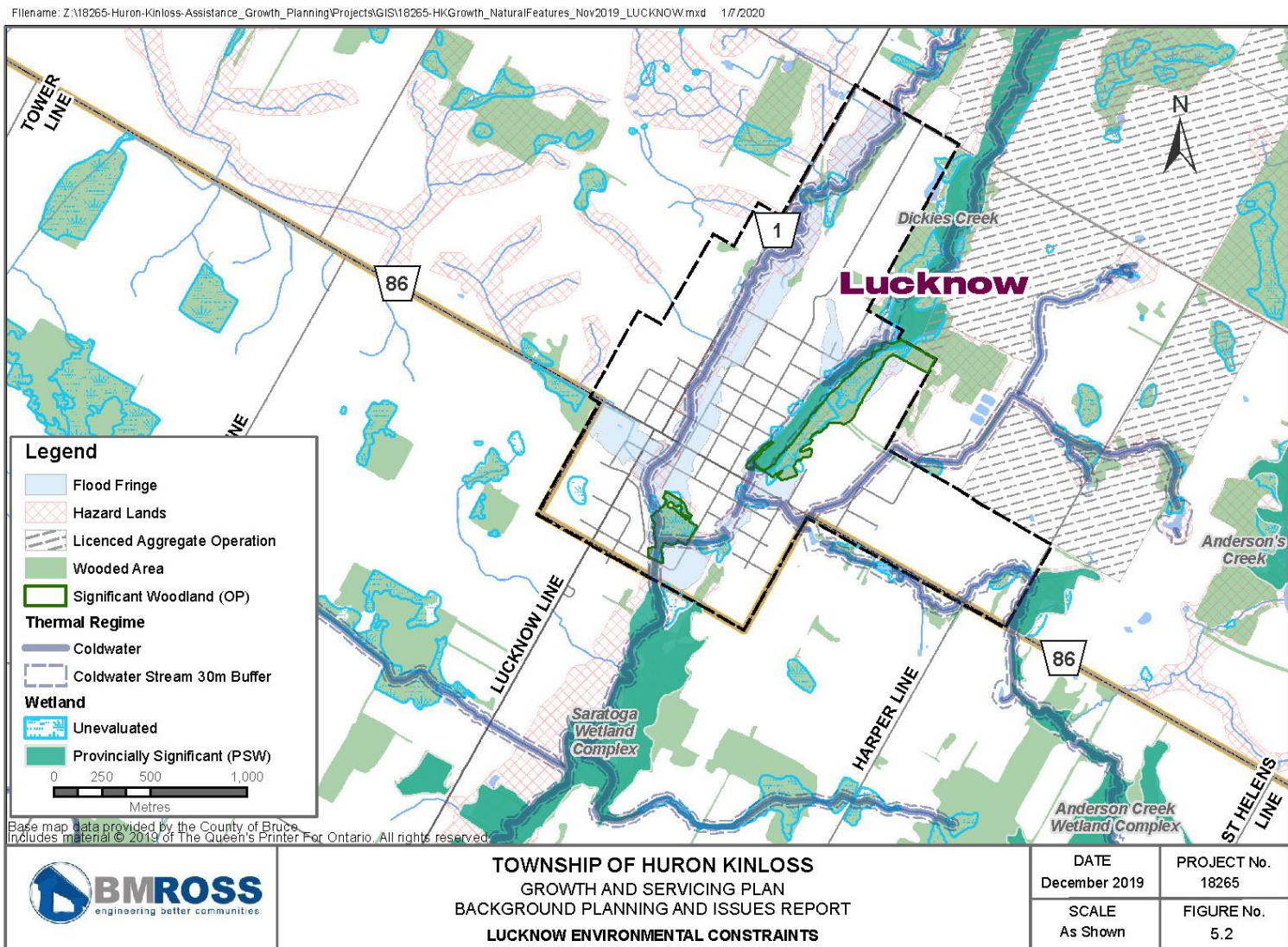
Immediately south of Lucknow is another provincially significant wetland area, the Saratoga Wetland Complex. This wetland complex is made up of a number of individual wetlands covering over 2,000 hectares (Ministry of Natural Resources and Forestry, 2017). The wetland is characterized as having a mix of deciduous and coniferous tree species. It is also incorporates a significant woodland, significant deer wintering area and is likely habitat for snapping turtle among other species.

To the east of Lucknow, at Torrence Street, is the Anderson Creek Swamp Complex, another provincially significant wetland (Ministry of Natural Resources and Forestry, 2017).

The area to the northeast and east of Lucknow are identified as aggregate resources areas. There is an existing quarry at the eastern-most limit of Lucknow. The area has sand and gravel resources, which under the Bruce County Official Plan are protected from future development or land uses that would deter future extraction.

To the west of Lucknow, there are a number of drains and creeks that flow towards Kinloss Creek. Outside of the urban settlement area there are hazards associated with the flooding and erosion areas around these watercourses.

Figure 5.2 Environmental Constraints, Lucknow



There are Significant Groundwater Recharge Areas (SGRAs) and Highly Vulnerable Areas (HVAs) located at the north end of Lucknow, along Stauffer and Havelock Streets (Ausable Bayfield Maitland Valley Source Protection Region, 2014). The area to the south of Lucknow, south of Bob Street, is another HVA. These areas are noted because at this time, Source Water Protection policies do not limit development in these areas but require additional terms and conditions for policy instruments for large septic systems to manage potential risks to municipal drinking water sources (Ausable Bayfield Maitland Valley Drinking Water Source Protection Committee, 2015).

5.2.1.3 Ripley

The village of Ripley and surrounding area is relatively free of significant natural features. South of the village are a number of drains and tributaries of the South Pine River. The hazard lands associated with these watercourses are shown on Figure 5.3. Within the village, there is a hazard area around the Culbert Drain, which flows across the northwest portion of the village. There are no significant woodlands or wetlands within the village or adjacent to it.

It should be noted however, the surrounding agricultural lands may be habitat for Bobolink and Meadowlark, and that there are historical observations of these species in the vicinity of the village.

5.2.1.4 Lakeshore

Significant natural features in the Lakeshore area of the Township include Lake Huron, the lakeshore bluff, woodlands and wetlands. Along the lakeshore, from the north end of the Township to the south, the shoreline bluff is identified as 'hazard lands'. This is because this feature is a steep hill with potential for erosion.

Along much of the lakeshore bluff, the area also features significant woodlands. There is also a large area of significant woodland in Point Clark, north of Concession 2 (see Figure 5.4). There are a number of unevaluated wetlands associated with that woodland. Clarks Creek and Pine River have hazard lands associated with their incised river valleys, east of Lake Range Drive. West of Lake Range Drive, the hazard areas around these watercourses are associated with flooding potential.

In Blairs Grove, there are two large areas of significant woodland. The southern-most is associated with the Blairs Grove Nature Trails and incorporates a sensitive dune area. North of Concession 6, in the Bruce Beach area, there is a long continuous area of significant woodland located below and along the shoreline bluff. There are very few natural features east of Lake Range in this area.

North of Concession 10 (see Figure 5.5), there are hazard lands associated with the small watercourses through Heritage Heights. To the east of Lake Range Drive, east of Inverlyn Lake and Kin-Bruce is a large swamp complex. The Stewart Swamp is a locally significant wetland. Associated with this wetland is a large area of significant woodland.

5.2.2 Planning Considerations

Planning policies, including provincial, County and local-level documents, provide guidance on future development – specifically, goals and constraints. The multiple levels of policy complement each other together, with provincial policies providing broad policy guidance and the County and local Official Plans identifying local issues and opportunities. Generally, future

Figure 5.3 Environmental Constraints, Ripley

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HKGrowth_NaturalFeatures_Nov2019_RIPLEY.mxd 1/7/2020

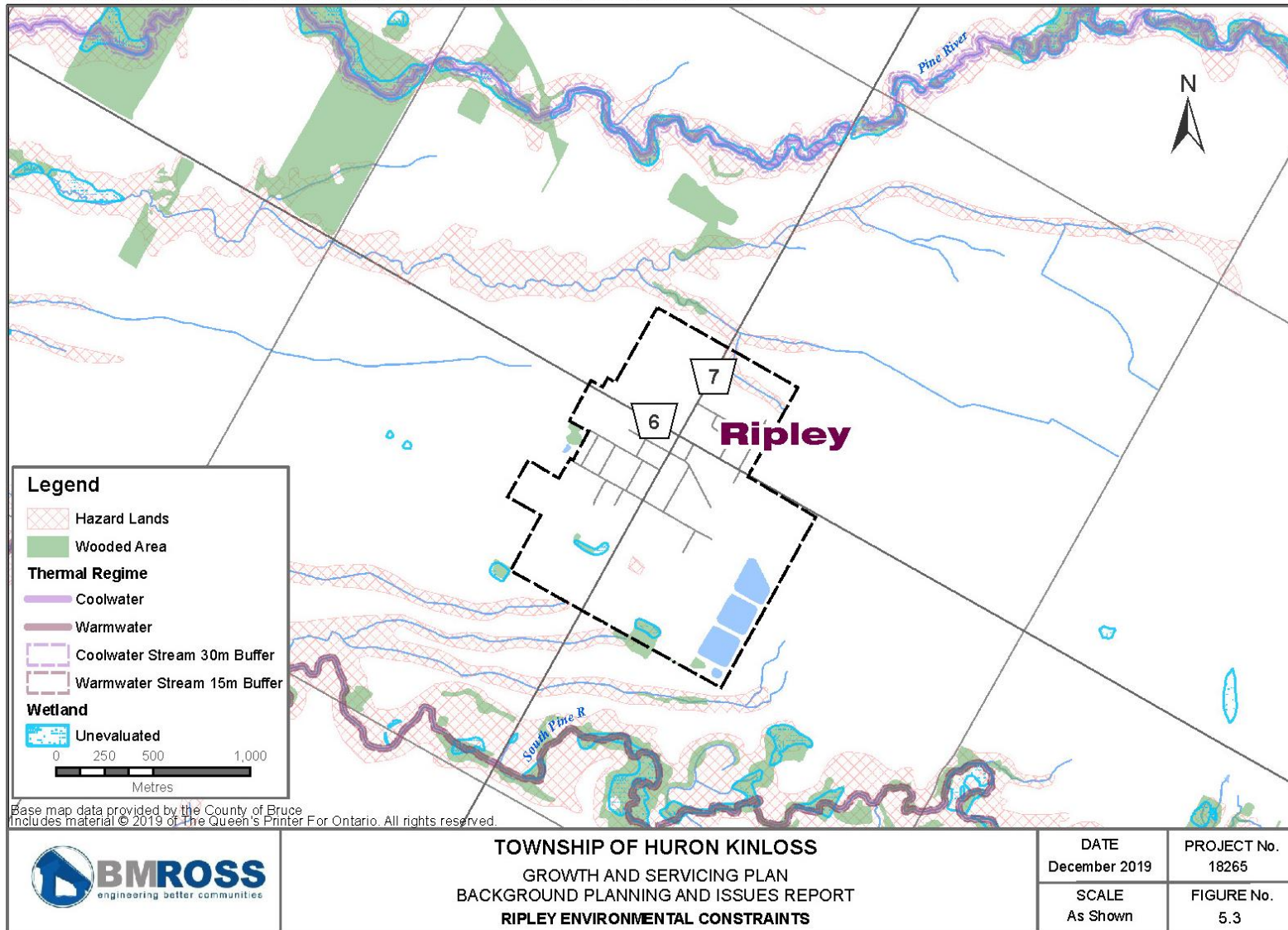


Figure 5.4 Environmental Constraints, Lakeshore South

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HKGrowth_NaturalFeaturesLakeshore_SOUTH_Nov2019.mxd 1/7/2020

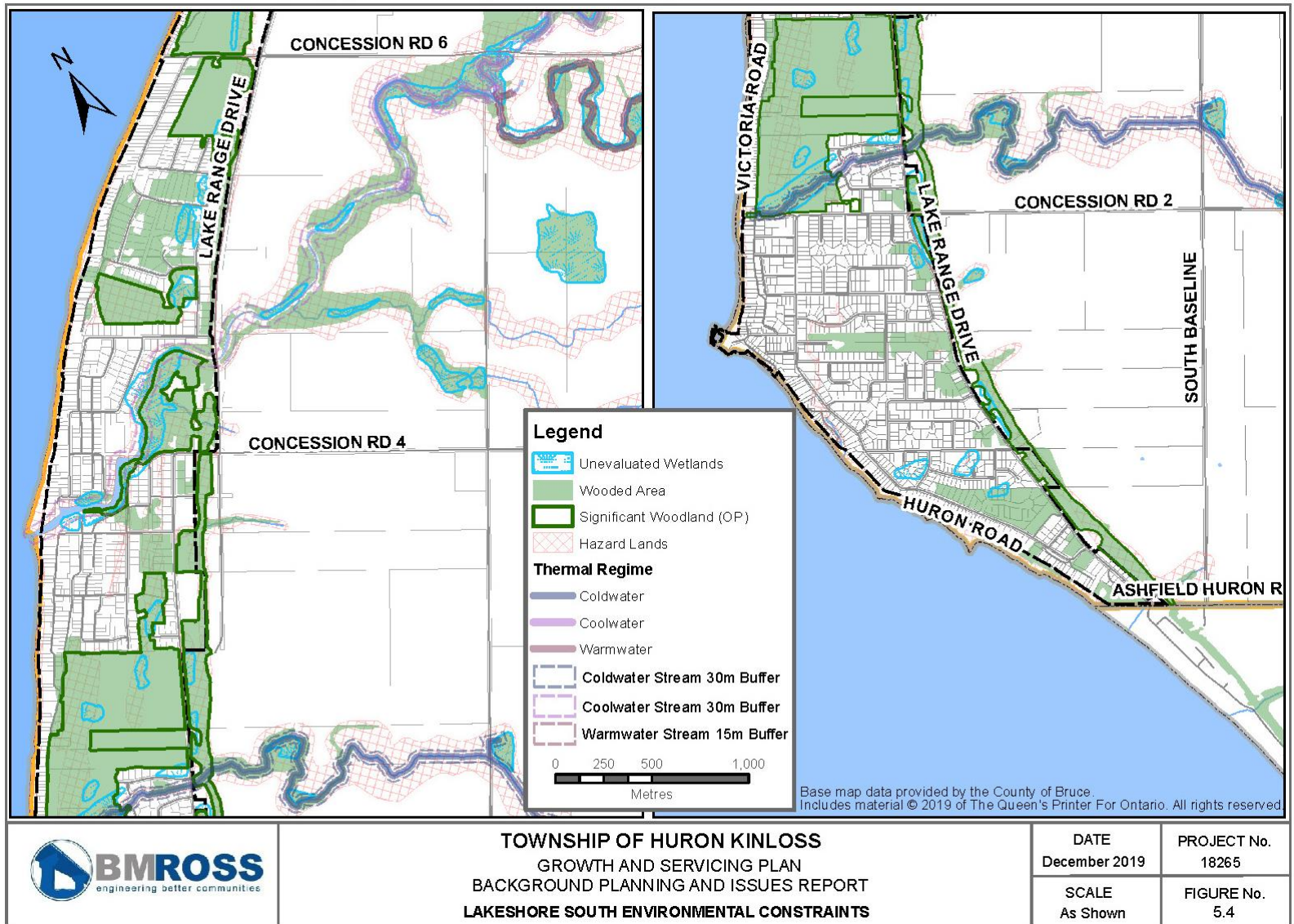
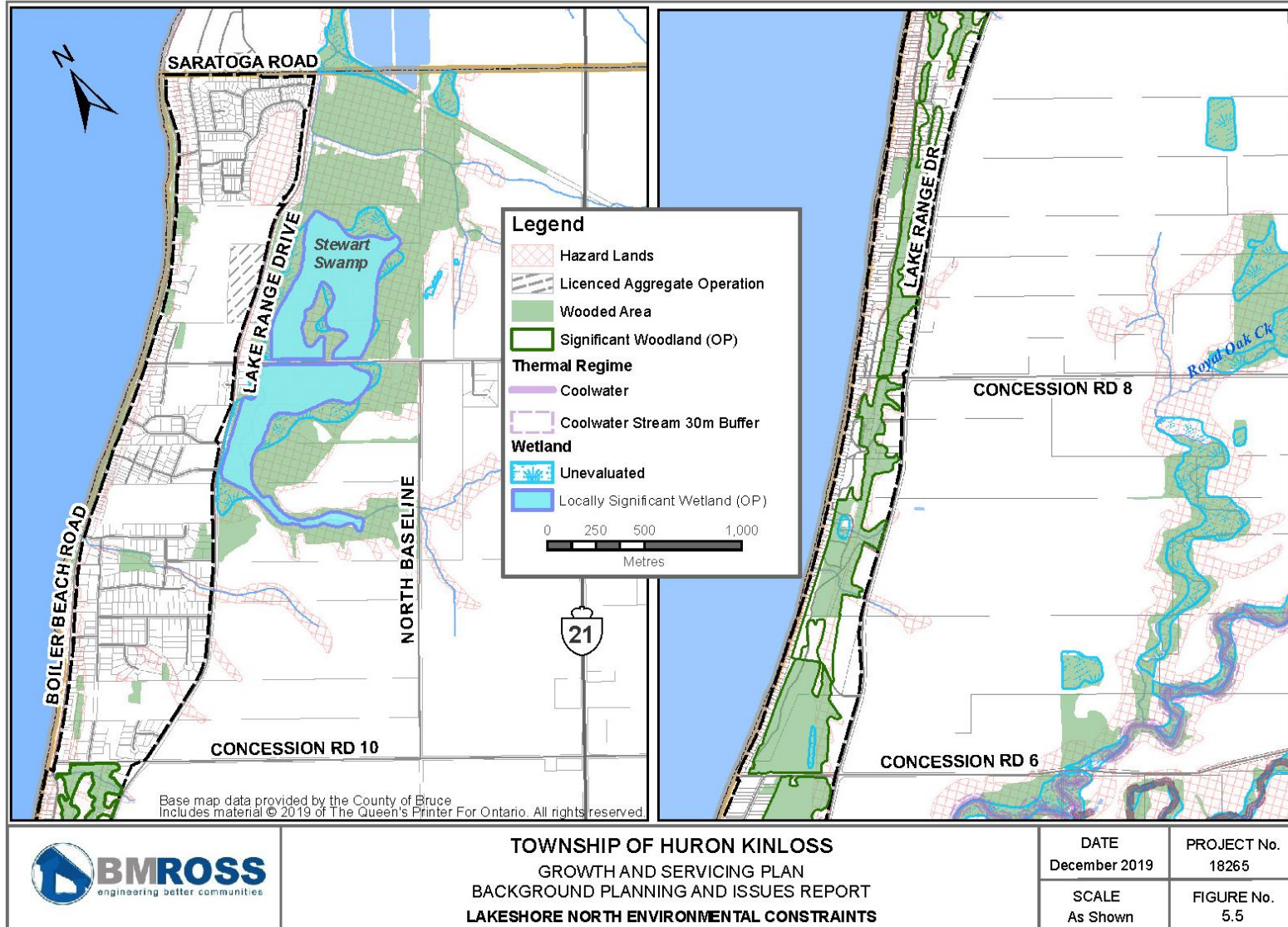


Figure 5.5 Environmental Constraints, Lakeshore North

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HKGrowth_NaturalFeaturesLakeshore_Nov2019.mxd 1/7/2020



development should promote efficient land use and avoid environmental, public health and safety concerns. Efficient land use should strive to minimize additional land required, use of prime agricultural lands, and reduce servicing costs. These policies promote development adjacent to existing settlement areas and the avoidance of 'leap-frogging' new development. The effect of leap-frogging is increased servicing costs if servicing can be extended or a different standard of servicing if it cannot. There is also the potential to increase the amount of prime agricultural land taken out of production to accommodate growth.

The Bruce County and Huron-Kinloss OP identify goals for growth as well as constraints based on local hazards and land uses. Policies direct growth away from natural areas, as discussed in the previous section. There are also policies in place to protect resource extraction areas and to avoid conflict with other land uses through buffers. Similar to provincial policy, the Official Plans promote orderly growth in designated areas, such as primary settlement areas.

Specific to Huron-Kinloss, there are buffers in place restricting development within 200 m of the sewage treatment facilities in Lucknow and Ripley. These buffers were established during the environmental assessments for these facilities and in the original Certificates of Approval.

Planning considerations in Huron-Kinloss also include buffers around the existing wind turbines in the Ripley area. The current provincial guidelines for wind turbines require a setback of 550 m from residences.

Planning policies also require that future development meets the Minimum Distance Separation (MDS) requirements from livestock and manure transfer facilities. MDS 1 is the formula used when new development or expansion of a settlement area is proposed within proximity to an existing facility. The variables of the formula include the type and number of livestock, type of storage facility, as well as type of land use proposed (i.e. construction of a single dwelling or creation of a subdivision or expansion of a settlement area). There are a number of livestock operations within the study area. For the purposes of this exercise a generalized approach to MDS constraints was used. Livestock operations and vacant barns were identified from aerial photography. The number of livestock was estimated based on the size of the barn. Vacant barns were assigned MDS setbacks based on the following criteria: Factor A = 1.0; Factor B based on 1 nutrient unit per 20 m² of livestock housing area; Factor D = 0.7, per the MDS Guidelines (Ontario Ministry of Agriculture, Food and Rural Affairs, 2016). It should be noted that the number of livestock were not confirmed with local farmers and should be considered estimates.

5.2.2.1 Lucknow

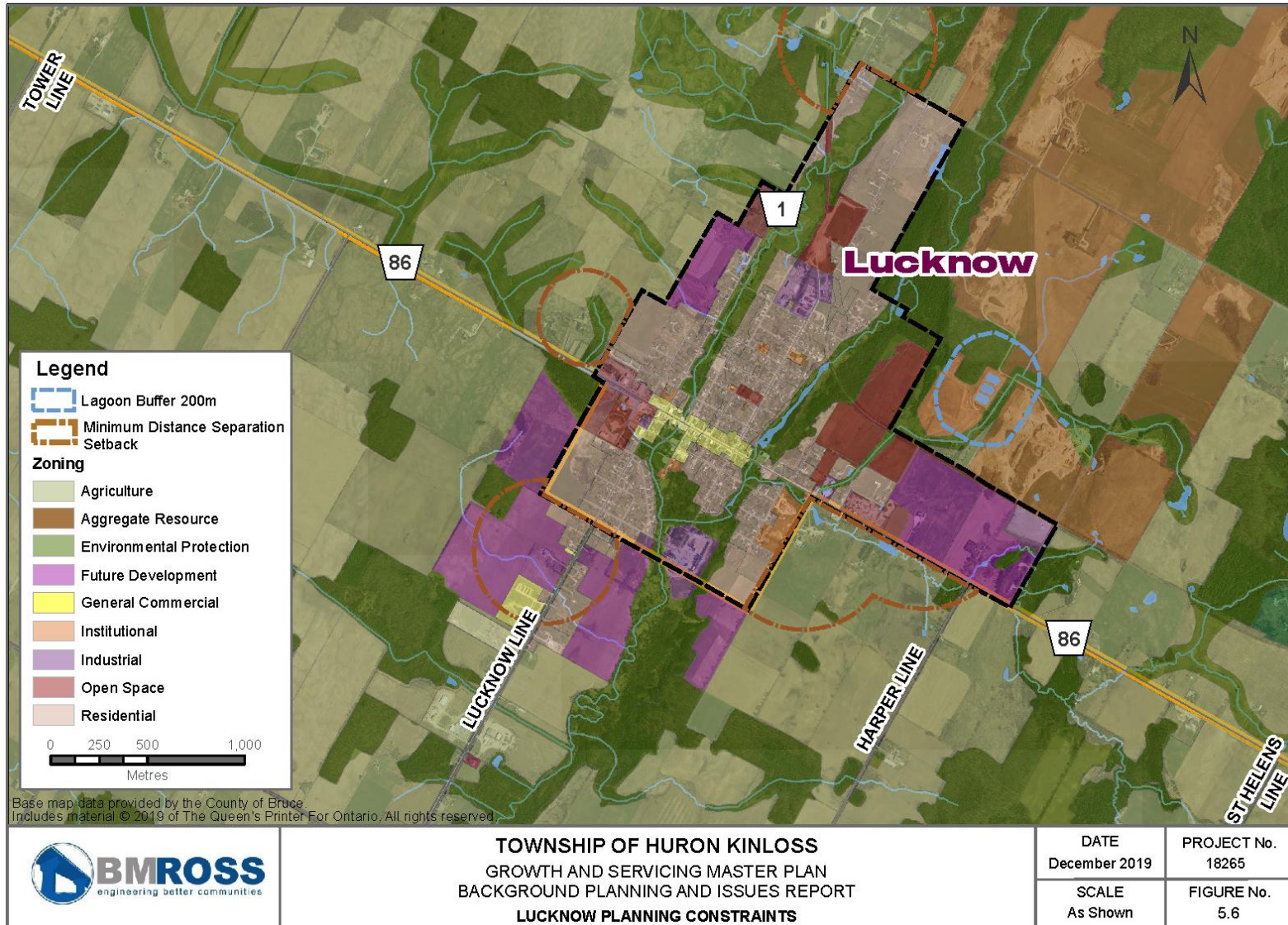
In Lucknow, the planning constraints include those related to zoning, MDS setbacks, aggregate setbacks and a buffer around the lagoons (Figure 5.6). Around Kinloss Creek and Dickies Creek, the area is zoned Environmental Protection related to the flooding hazard, wetlands and significant woodland. To the west of the village boundary, there is an existing livestock barn that has an MDS setback adjacent to village boundary.

To the northeast, much of the land outside of the village boundary is zoned for aggregate uses. The lagoons are also in this area.

South of the village boundary is the County of Huron and Township of ACW. Any future development in this area would either be in ACW or would require a boundary adjustment.

Figure 5.6 Planning Constraints, Lucknow

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HKGrowth_PlanningConstraints_Dec2019_LUCKNOW.mxd 1/7/2020



5.2.2.2 Ripley

Within Ripley, the areas zoned Environmental Protection and Open Space are relatively limited (see Figure 5.7). There lands zoned for Open Space include the lands around the arena, soccer fields, and cemetery. There two areas zoned Environmental Protection, one around the Culbert Drain in the north end of the village and a small area, corresponding with a woodland, in the south. In the east end of the village, there is a 200 m buffer around the lagoons.

Outside of the village, there are a number of current livestock operations and empty barns. The MDS setbacks of the barns to the west, north, and south abut the current settlement area boundary. There is also a large hog operation to the west of the village that has a large MDS setback that comes close to the west side of the village. To the west of the village are also windmills, which have a 550 m setback.

5.2.2.3 Lakeshore

In Figure 5.8, the planning constraints for the southern Lakeshore are shown. In the Point Clark area, there are large areas zoned 'Open Space' and 'Environmental Protection'. Development within these zones is restricted. To the east of Lake Range, north of Clark Creek to Pine River, MDS setbacks abut the boundary of the Lakeshore Settlement Area. North of the Pine River, there is a single small MDS setback around a severed farm property.

North of Concession 6, there are MDS setbacks around barns on Lake Range Drive (as shown in Figure 5.9). In the Bruce Beach area, much of the area immediately north of Concession 6 and west of Lake Range, is zoned Open Space, with the bluff zoned Environmental Protection. North of Concession 10, there is a large area of land zoned Environmental Protection that corresponds with the significant woodland and Stewart Swamp. There is also an aggregate area on the west side of Lake Range Drive, south of Inverlyn Lake.

5.2.3 Infrastructure Considerations

5.2.3.1 Water Infrastructure

There are three separate water systems in the Township of Huron-Kinloss: the Ripley Water System, Lucknow Water System and Lakeshore Water System. The Lakeshore System has two pressure zones, allowing it to be split at Concession 6 into Lakeshore North and Lakeshore South for analyses purposes.

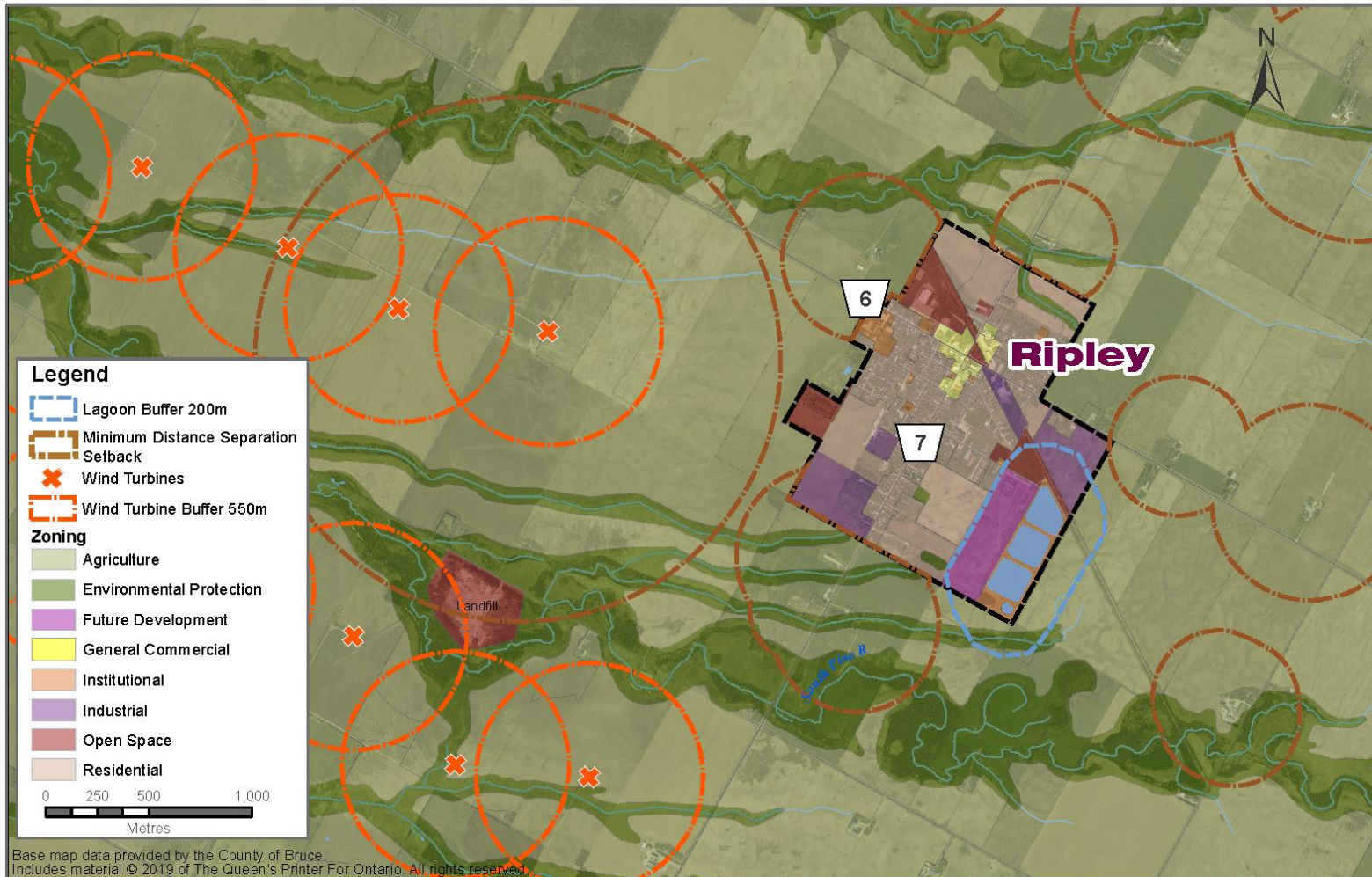
The existing infrastructure for each system and reserve capacity calculations are reported in Section 3 of this study. This analysis is a high-level analysis of potential constraints to development with respect to the water distribution networks. For the water distribution systems, constraints are considered a potential need for booster pumps (increases in elevation) and remoteness from trunk watermain or storage sites. It should be noted that system modelling was not undertaken as part of this study nor does this analysis consider future capacity needs.

In Lucknow, there is no water or wastewater servicing in the northern portion of the community (roughly north of the soccer fields). Generally, the elevation increases as you move away from the core of Lucknow. This may present challenges in terms of water servicing.

The topography in the Ripley area is generally flatter than in Lucknow, and generally slopes to the west. It is anticipated that water servicing beyond the existing village boundaries to the east will require a booster pump and/or extension of a trunk watermain. Sewage servicing in the northern portion of the village and west of the current servicing extent is likely to require sewage pumping facilities.

Figure 5.7 Planning Constraints, Ripley

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HK\Growth_PlanningConstraints_Dec2019_RIPLEY.mxd 1/7/2020



	TOWNSHIP OF HURON KINLOSS GROWTH AND SERVICING MASTER PLAN BACKGROUND PLANNING AND ISSUES REPORT RIPLEY PLANNING CONSTRAINTS		DATE December 2019	PROJECT No. 18265
			SCALE As Shown	FIGURE No. 5.7

Figure 5.8 Planning Constraints, Lakeshore South

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HK\Growth_PlanningConstraintsLakeshore_Dec2019_SOUTH.mxd 1/7/2020

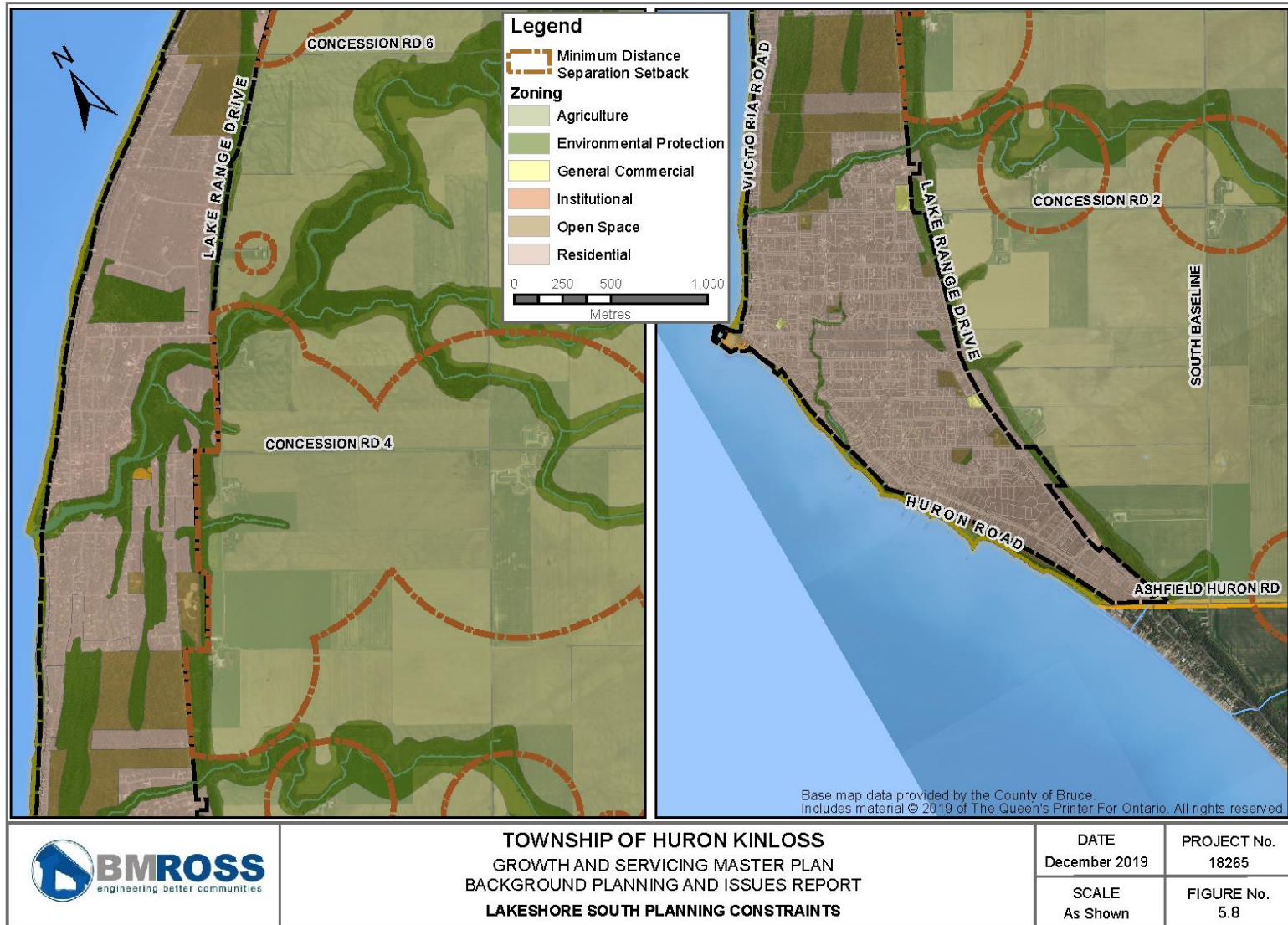
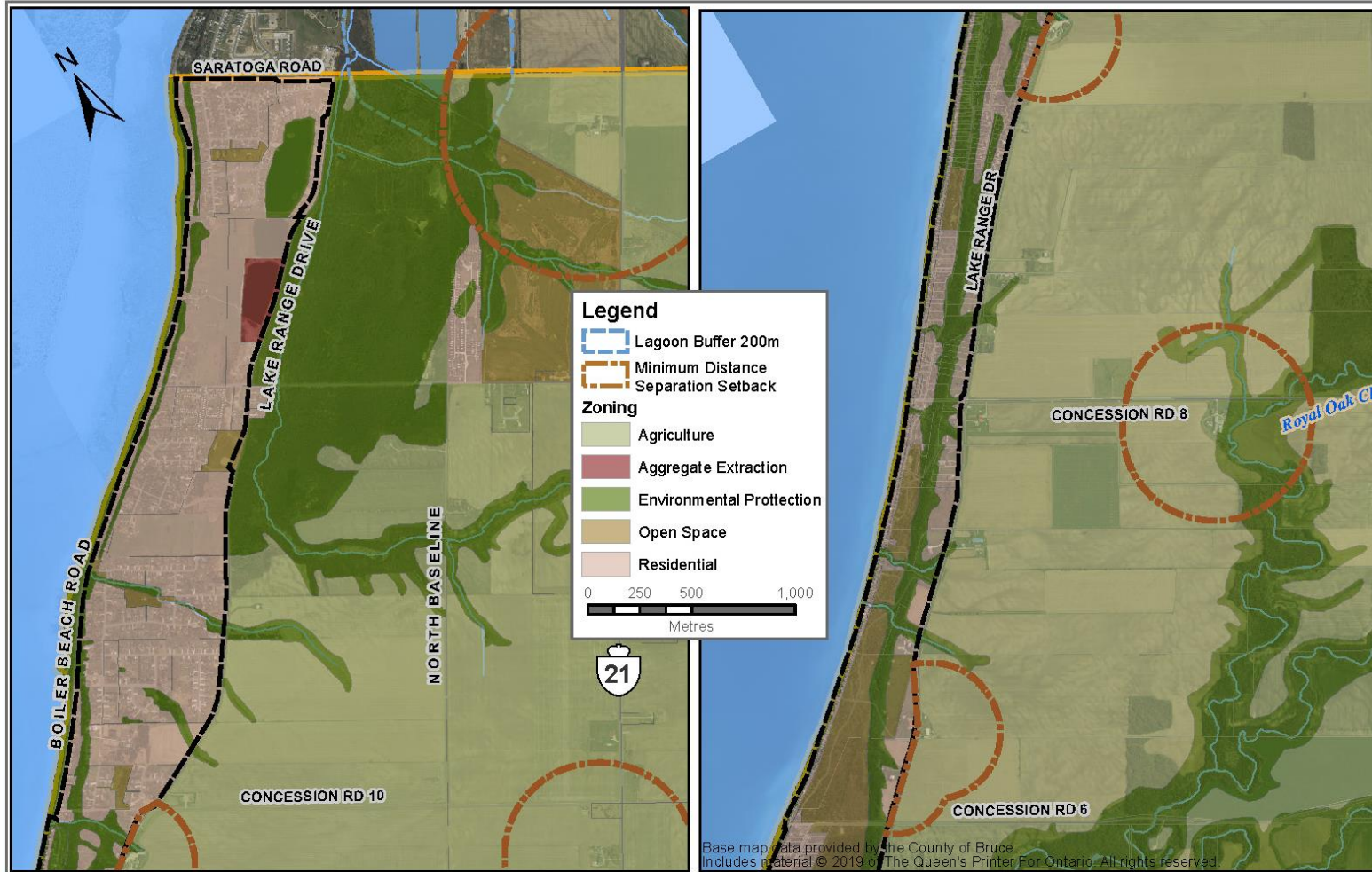


Figure 5.9 Planning Constraints, Lakeshore North

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\18265-HKGrowth_PlanningConstraintsLakeshore_Dec2019_NORTH.mxd 1/7/2020



Base map data provided by the County of Bruce. Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON KINLOSS GROWTH AND SERVICING MASTER PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH PLANNING CONSTRAINTS		DATE December 2019	PROJECT No. 18265
			SCALE As Shown	FIGURE No. 5.9

5.2.3.2 Wastewater Infrastructure

Presently, only Ripley and Lucknow have wastewater treatment and collection systems. Wastewater in the Lakeshore is treated using private, individual septic systems. Similar to the analysis of water infrastructure, the evaluation of constraints for sanitary sewage infrastructure focuses on identifying areas where sewage pumping may be required and proximity to trunk sewers. Modelling of the sewer system was not undertaken, so this evaluation does not include an examination of sewer or pumping station capacities.

5.2.4 Combined Constraint Analysis

In order to identify potential constraints to future growth, planning, environmental and infrastructure constraints were mapped. The different layers were overlaid to identify the areas within and around Ripley, Lucknow and the Lakeshore with the fewest potential constraints. The following constraints were used in this analysis:

- Environmental Constraints:
 - Wetlands
 - Significant Woodlands
 - Flood Fringe
 - Hazard Lands
 - Coldwater, warmwater stream buffers
 - Aggregate Resources
- Planning Constraints:
 - Environmental Protection Zoning
 - Open Space Zoning
 - MDS Setbacks
 - Lagoon Setbacks
 - Aggregate Zoning
- Infrastructure Constraints:
 - Water distribution constraints
 - Wastewater collection constraints

The number of constraints is represented an overlay of the different constraint layers. For the purposes of this analysis all constraints were given equal weighting. The number of constraints in a particular area is shown using a gradient colour scale. It should be noted that some constraints represent definite barriers to future development (such as hazard land, wetlands) whereas other constraints are less restrictive (e.g. woodland areas could potentially be developed based on the outcome of an EIS). The distinction between definite and less-restrictive constraints was not included in the analysis.

There is some overlap within the constraints; for example, most wetland areas are zoned 'Environmental Protection'. However, not all significant woodlands are zoned 'Environmental Protection'. Therefore, for the purposes of this analysis, overlapping planning and environmental constraints are included in an attempt to have a comprehensive assessment of potential constraints to development.

It should be noted that this analysis does not include an assessment of potential cultural heritage or archaeological resources. It should be noted that lands in and adjacent to the existing urban areas, or lands within 300 m of a water body have archaeological potential (per

the Ministry of Heritage, Sport, Tourism and Culture Industries Archaeological Potential and Cultural Heritage Potential checklists). The potential for archaeological and cultural heritage resources should be evaluated on an individual site basis.

5.2.4.1 Lucknow

The summary of the constraint analysis for Lucknow is shown in Figure 5.10. In any given area around Lucknow, the maximum number of constraints that overlap was 6. The areas with the greatest constraints are in the southern portion of the village, associated with the confluence of Dickies Creek and Kinloss Creek. The constraints in this area include flood fringe, significant woodland, wetland and zoning constraints. In the eastern portion of the village, the area around the mill pond and Dickies Creek are also constrained. There are significant constraints in this area related to environmental factors – a provincially significant wetland, significant woodland, Dickies Creek as well as the current EP zoning.

To the northeast of the village (northeast of Napier Street), the constraints resulting from aggregate resources and Dickies Creek would restrict future development in this area. In the northern portion of the current urban area, along the east side of Stauffer Street and along Havelock Street, north of the soccer fields, further development in this area may be challenged by the natural hazards and constraints associated with Kinloss Creek as well as the absence of servicing in this area. This area may also be challenging to service in the future, with respect to water infrastructure, due to the elevation and costs of extending a long stretch of watermain for relatively few properties. Beyond the urban area, future development north would be constrained by existing agricultural operations and aggregate operations/resources.

Within the western area of Lucknow, there are relatively few constraints. It should be noted that water servicing may be challenging, again due to the higher elevation in this area, but improvements to local watermains may reduce this impact. Beyond the urban settlement area, development to the west is constrained by hazard lands associated with municipal drains and agricultural operations.

There are some vacant lands in the southern portion of the village with relatively few constraints. Beyond the urban limit, the Saratoga Swamp Complex and associated natural features constrain future development. Furthermore, these lands are outside the Township of Huron-Kinloss and County of Bruce.

5.2.4.2 Ripley

In and around Ripley, the maximum number of overlapping development constraints was five. The summary of overlapping constraints is shown in Figure 5.11. Within the urban settlement area, there are relatively few constraint areas. The eastern portion of the village, adjacent to the lagoons is constrained. The small constraint area in the southeast of the village reflects an unevaluated wetland and zoning constraints. In the north part of the village, the hazard designation and EP zoning are the constraints around the Culbert Municipal Drain.

Outside of the settlement area, there are constraints resulting from MDS setbacks, hazard and EP designations, and buffers around watercourses. Immediately south of Ripley, MDS setbacks and hazards associated with the drains and tributaries of the South Pine River represents constraints to future development. West of the village, there is a significant MDS setback around a large hog operation. This area may also be more challenging to provide wastewater service as it is lower in elevation than the rest of the system. To the northeast, the provision of water service may constrain future development. A water booster pumping station may be required.

Figure 5.10 Development Constraint Analysis Summary, Lucknow

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\ConstraintMaps\18265_Fig5.10_ConstraintSUM_Lucknow_8x11L.mxd 2020-01-03

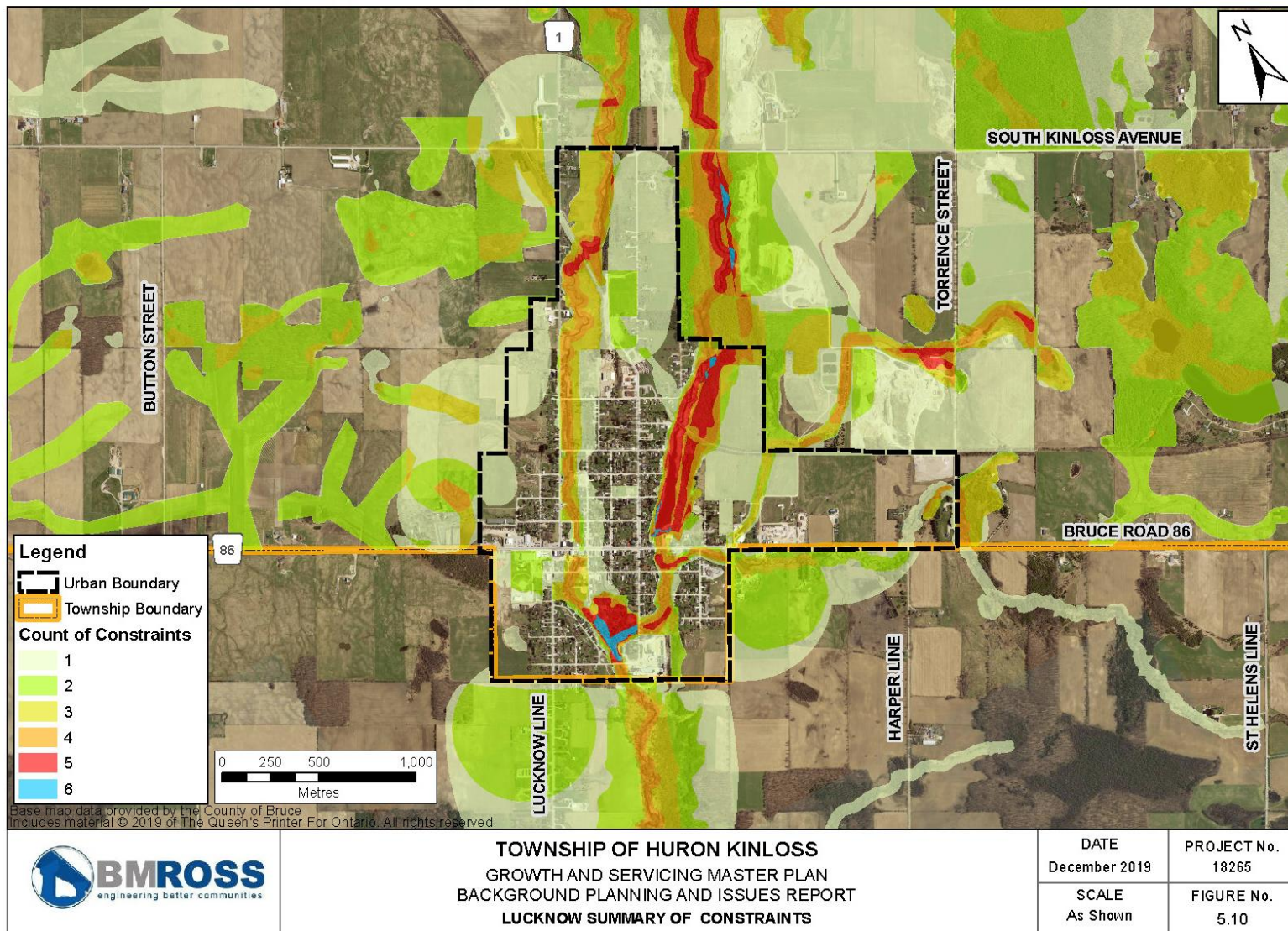
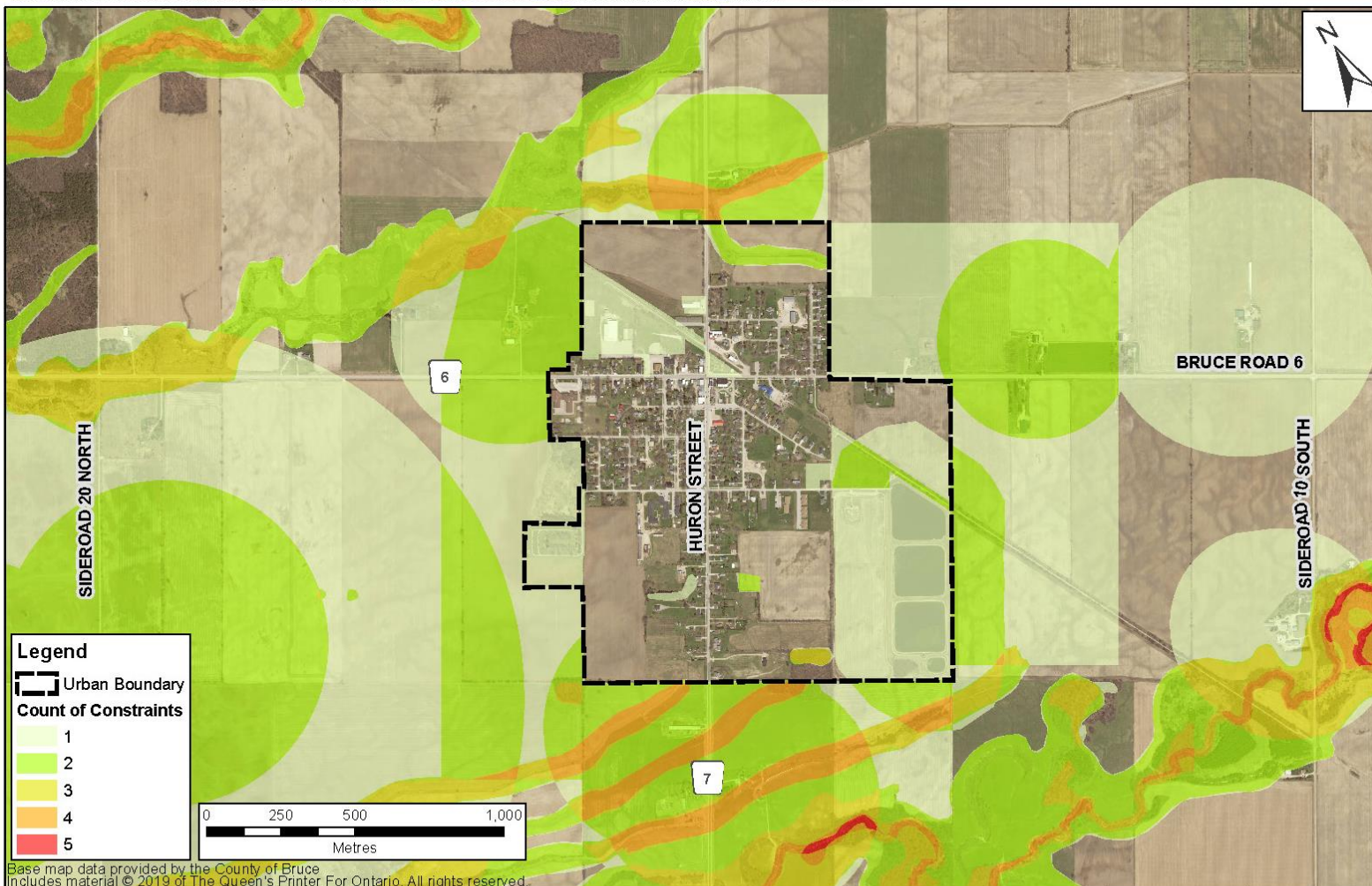



Figure 5.11 Development Constraint Analysis Summary, Ripley

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\ConstraintMaps\18265_Fig5.11_ConstraintsSUM_Ripley_Bx11L.mxd 2020-01-03



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON KINLOSS GROWTH AND SERVICING MASTER PLAN BACKGROUND PLANNING AND ISSUES REPORT RIPLEY SUMMARY OF CONSTRAINTS	DATE	PROJECT No.
		December 2019	18265
		SCALE	FIGURE No.
		As Shown	5.11

5.2.4.3 Lakeshore South

Similar to Ripley, the maximum number of overlapping constraints in the Lakeshore South area was five. Figure 5.12 shows the overlay of the different planning and environmental constraints. In the Point Clark area, there are environmental constraints along the east side of Lake Range relating to the shoreline bluff. North of Concession 2, the area around Clarks Creek has overlapping constraints relating to the watercourse, hazards, presence of a significant woodlands and zoning. The large wooded area between Concession 2 and Lurgan Lane is constrained due to the presence of a significant woodland, the presence of unevaluated wetlands and zoning. East of Lake Range, in this area, future development is constrained by the shoreline bluff and associated hazards and MDS setbacks from agricultural operations.

In Lurgan Beach, most of the constraints are associated with the presence of the Pine River. Away from the Pine River and significant woodland area, there are no identified constraints to development. In Blairs Grove, the areas with constraints include the Blairs Grove Nature Trail area (the large undeveloped area north of Bell Drive) and large area southwest of the intersection of Concession 6 and Lake Range Drive. The constraints in these areas are the result of significant woodlands and zoning. Similar to Lurgan Beach, outside of these areas this is little to constrain development in Blairs Grove.

5.2.4.4 Lakeshore North

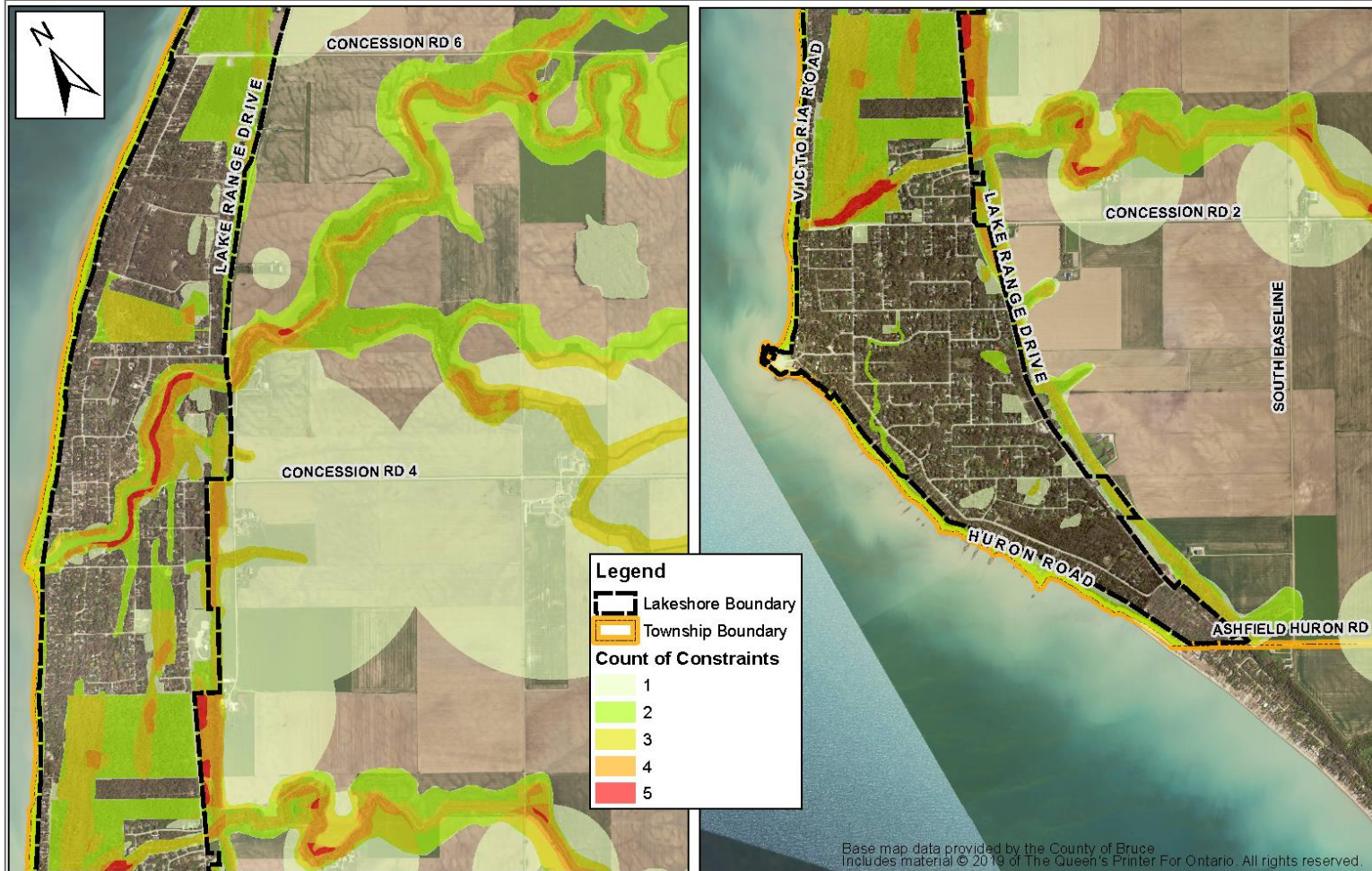
In the Bruce Beach Area, the presence of significant woodlands, hazard lands and EP and OP zoning constrain future development, west of the shoreline bluff (as shown in Figure 5.13). Along the west side of Lake Range Drive, between Concession 6 and 8, there are some areas that could support future residential development. This development would essentially be limited to lots fronting on Lake Range Drive, similar to the recent development north of Concession 8. In this area, west of Lake Range, there are relatively few constraints in terms of environmental factors. The area is currently outside of the settlement area and any change to this boundary would require a Comprehensive Review study.

North of Concession 10, in the Heritage Heights Area, there are limited constraints west of Lake Range Drive. Figure 5.14 shows the overlay of the constraints for the Lakeshore North area. Generally, east of Lake Range Drive, north of Concession 10, there are relatively few constraints. It should be noted there is an existing aggregate use south of Inverlyn Lake. While the lands around this area are shown as having no constraints, the development of the lands immediately adjacent will be restricted until the aggregate operation ceases.

Development east of Lake Range Drive, east of Kin-Bruce and north to the boundary with Kincardine will be constrained by the presence of a locally significant swamp (Stewart Swamp), a significant woodland, hazard lands, and EP zoning. South of this area, between the North Baseline and Lake Range Drive, the constraints are only limited to hazards around existing drains.

Figure 5.12 Development Constraints Analysis Summary, Lakeshore South

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\ConstraintMaps\18265_Fig5.12_ConstraintsSUM_LakeshoreSOUTH_8x11L.mxd 2020-01-03

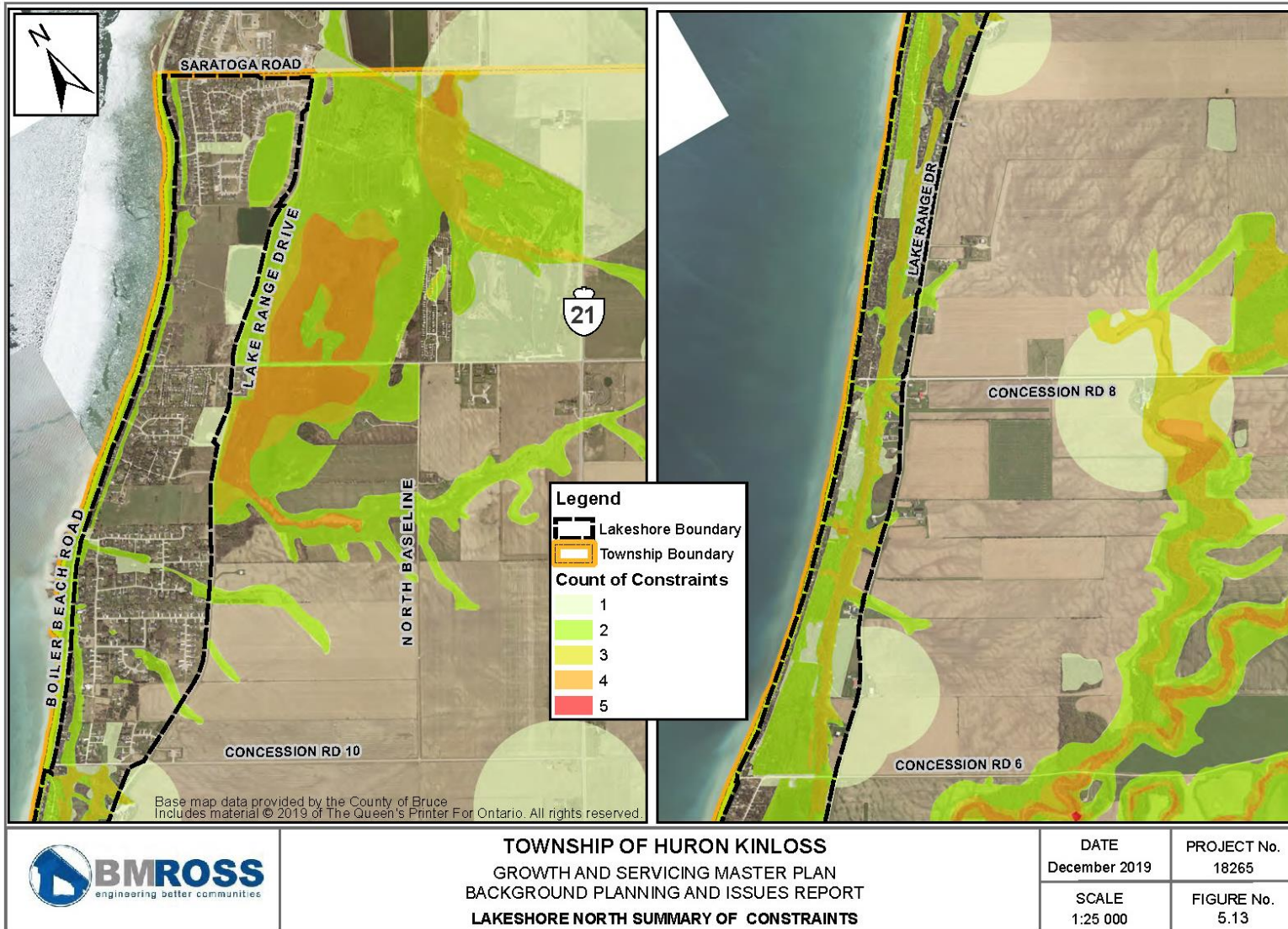


TOWNSHIP OF HURON KINLOSS
 GROWTH AND SERVICING MASTER PLAN
 BACKGROUND PLANNING AND ISSUES REPORT
LAKESHORE SOUTH SUMMARY OF CONSTRAINTS

DATE December 2019	PROJECT No. 18265
SCALE 1:25 000	FIGURE No. 5.12

Figure 5.13 Development Constraint Analysis Summary, Lakeshore North

Filename: Z:\18265-Huron-Kinloss-Assistance_Growth_Planning\Projects\GIS\ConstraintMap\18265_Fig5.13_ConstraintsSUM_LakeshoreNORTH_8x11L.mxd 1/6/2020



6.0 SUMMARY AND FUTURE STEPS

This report is a compilation of the existing development and servicing conditions within the primary and secondary settlement areas of the Township of Huron-Kinloss. It is intended that this study will serve as a source of background information to guide and inform future planning and servicing studies. This study included an examination of the existing land uses in Lucknow, Ripley and Lakeshore, including inventorying undeveloped lands and examining historic development patterns. Servicing was assessed in terms of existing infrastructure and reserve capacities of the water and wastewater systems. From a planning perspective, the form and function of the different communities were assessed, including their relationships to adjacent towns. Lastly, an analysis of potential development constraints was undertaken.

There are two primary urban settlement areas in Huron-Kinloss, Lucknow and Ripley. Lucknow is the larger community and has the most commercial and industrial land uses. Ripley, in comparison, is smaller and is primarily a residential community. It supports only a limited number of businesses. The Lakeshore is a secondary settlement area and is almost exclusively a residential area. Presently, there is a mix of permanent and seasonal residents along the lakeshore, but residency levels vary depending on the specific Lakeshore community. Over the last thirty years, however, the proportion of residences that are seasonal dwellings has declined. Based on current information, approximately 44% of the residences in the Lakeshore area are occupied on a seasonal basis.

Along the lakeshore, there are some communities that still have a higher proportion of seasonal dwellings compared to permanent ones. In Huron-Kinloss, Bruce Beach and Lurgan Beach continue to be primarily seasonally occupied areas. In other areas, that were historically cottage communities such as Point Clark and Boiler Beach, there are now a greater number of permanent dwellings than seasonal. Point Clark is the largest Lakeshore community, and by the number of developed properties, also the largest urban area in Huron-Kinloss.

The transition of the Lakeshore area from a seasonally occupied dominated area is the result of residential developments in the Heritage Heights and Inverlyn Lake/Huronville area, as well as conversion of cottages to permanent dwellings either through renovations or rebuilds. It is expected that this trend towards more permanent dwellings will continue, driven by demand for housing in this area for retiring seniors and families. Despite this trend, it is likely that some areas will continue to have a strong contingent of seasonal dwellings, such as Bruce Beach and Lurgan Beach, and along the immediate lakeshore.

In Huron-Kinloss over the past twenty years, there has been an annual average of 27 building permits issued for new residential development. In Ripley, Lucknow and the Lakeshore, the 20-year annual average is 24 residential building permits issued. The majority of these permits have been issued for new residences in Inverlyn Lake/Huronville, Heritage Heights and Point Clark. Across the entire Lakeshore over the last twenty years there were 421 building permits issued, compared to 25 and 29 in Ripley and Lucknow respectively. Development along the lakeshore has been driven by the availability of building lots associated with Plans of Subdivision in Heritage Heights, the development of the Inverlyn Lake adult retirement community, and availability of infill lots in Point Clark.

The assessment of land uses in the settlement area included inventorying vacant, undeveloped lots. For the purposes of this study, undeveloped lots were classified as 'vacant' or 'vacant-constrained'. The properties identified as vacant-constrained are either not suitable for future development (for example, due to the presence of natural hazards) or would require additional steps or studies prior to any potential development (e.g. a zoning change or EIS). Within the settlement areas, 470 undeveloped lots were identified, with 374 of those identified as 'vacant' or having good development potential. This represents a 15-year supply of lots, assuming the annual average of 24 lots continues in the future. The most infill lots are found in Point Clark, with 136 potentially developable lots, followed by Lucknow with 63 infill lots.

The count of vacant lots does not include lots currently proposed through Plans of Subdivision or other planning processes. Within Ripley, there is a significant number of proposed lots that do not exist yet (over 150 lots). In the Lakeshore area, this is one large proposed development between Heritage Heights and Kin-Bruce that would result in an additional 77 lots. In Lucknow, there are no approved Plans of Subdivision; however, the Township has had initial discussions with a developer for a 70-unit development. These proposed developments represent opportunities for future residential growth; however, development is contingent on developers proceeding to construction. In Ripley, despite the approval of the Plans of Subdivision, few of the proposed developments have proceeded to construction and the creation of new residential lots.

Servicing in the settlement areas varies from full water and wastewater servicing in Ripley, Lucknow and Inverlyn Lake/Huronville (from Kincardine), to partial servicing along the remainder of the Lakeshore. Outside of the Inverlyn Lake/Huronville area, there is only municipal water servicing. Wastewater service in the Lakeshore area is provided by private, individual on-site systems (i.e. septic systems). The reserve capacities of the three water and two wastewater systems were assessed as part of the efforts for this study. To calculate the uncommitted reserve capacity, the current usage and committed capacity were evaluated. For the purposes of this study, committed capacity included all proposed developments (from initial proposals to approved Plans of Subdivision) as well as the infill lots within the service areas.

In Ripley, the uncommitted water capacity is approximately 57% or 766 Equivalent Residential Units (ERU) of the current capacity. A new well and elevated storage tank in Ripley have increased the total capacity of the system. For the Lucknow Water System, the uncommitted capacity is approximately 8% of the capacity or an additional 74 ERU. Along the Lakeshore, which is split into the Lakeshore North and Lakeshore South pressure zones, the uncommitted capacity is 30% (423 ERU) and 28% (683 ERU) of the total capacity.

For the wastewater systems in Ripley and Lucknow, the uncommitted capacities are 86 ERU in Ripley and 10 ERU in Lucknow. In Lucknow, it should be noted that the committed capacity, includes all the proposed residential development and potentially developable infill lots. This is an additional 132 ERU that are not built. When and if all the developments included in the committed capacity are built, this would essentially fill the serviced urban area of Lucknow.

The uncommitted capacity for the water and wastewater systems has been calculated based on equivalent residential uses and with the assumption that non-residential growth in Ripley, Lucknow and the Lakeshore will be minimal. A large industry, or any industry with significant water use or wastewater production will impact the reserve capacity.

For each community, the form, function and linkages with other communities were defined. Lucknow is the largest commercial and industrial centre in Huron-Kinloss. It has a relatively strong residential base and supports the surrounding agricultural area; however, despite being the largest primary settlement area it still lacks some services. Residents of Lucknow travel to Wingham and Goderich for large format retail shopping needs (including groceries) and to access a hospital. A significant number of residents will also travel outside of the community for employment. Lucknow has a greater range of housing options and has historically had a more attainable housing market than Ripley and the Lakeshore.

Ripley is a small bedroom community in a rural area. There are limited services available in the community and the downtown core struggles to support and maintain commercial businesses. There is a sufficient population base in Ripley and the surrounding area to support the recreation and institutional facilities. Most residents commute outside of Ripley for employment and for services, travelling to Kincardine and Goderich primarily. Generally, Ripley is home to seniors and young families. Much of the population of the village are long-term residents, resulting in relatively low turn over in residences. In the last few years, there have been relatively few homes for sale. In the past, the lower home prices (compared to the Lakeshore and Kincardine) have attracted young families to the community.

The Lakeshore is made up of several residential communities, with almost no commercial development. Development in this area is almost exclusively single detached units, but there are significant variations in the size, age, style and occupancy of homes throughout the different communities. The proportion of seasonally and permanently occupied homes varies and differentiates certain areas. Some areas, such as Heritage Heights, are exclusively permanently occupied and this is reflected in the large, estate-like homes. Other areas, such as Bruce Beach, have a significant seasonal population and retain the character of a cottage community. Within the Lakeshore area and its communities, there are relatively few amenities and services. Full-time residents commute out of the area for work and to either Kincardine or Goderich for services.

In the Lakeshore, there are still natural areas that remain undeveloped and these features lend themselves to the character of the area. Residents have generally been attracted to this area by the natural setting and greater availability of homes and lots to purchase.

Throughout the recent settlement areas, there is a perception of a lack of available lots for future development. In Lucknow, available lots have historically been limited to infill, as there has not been a Plan of Subdivision in this community in the last twenty years. Furthermore, there are relatively few large parcels left within the urban settlement area that would be suitable for development. While there is still a relatively healthy supply of infill lots available, future development in Lucknow may have to be considered in terms of redevelopment and intensification.

In Ripley, there is a significant number of future lots proposed through approved Plans of Subdivision; however, none of the developments have proceeded to construction. Within the village, there are still some large parcels that could support future residential development and some infill lots. Development in Ripley appears to be hampered by the availability of new homes in areas like Heritage Heights and a buyer preference to live in the Lakeshore Area. Build-out of the desirable lakeshore areas in the future may redirect growth back to Ripley. The availability

of attainable houses or homes at a lower cost than along the Lakeshore and Kincardine could also drive future growth.

The Lakeshore Area has and continues to see the majority of growth in Huron-Kinloss. Development within the existing settlement area boundary, west of Lake Range will eventually be constrained by the existing natural features. In the immediate future, it is expected that the area will continue to attract development. There is some potential for additional development along Lake Range drive between Concession 6 and 8, as well as a proposed development in Heritage Heights, but there are limited large development areas remaining.

Expansion of the Lakeshore Settlement Area would require completion of a Comprehensive Review. The likely areas for expansion, based on present constraints is east of Lake Range between Concession 8 and south of Kin-Bruce. Servicing is expected to be an important consideration of any future settlement area expansion. The lakeshore area is the most heavily populated area of the Township but lacks a municipal sanitary sewage system. While existing development levels are supported by private, on-site sewage treatment, future development may raise questions from review agencies about the continued use of septic systems in this area and their appropriateness for continued development. It should also be noted that opportunities for redevelopment and intensification along the Lakeshore are limited by the absence of municipal wastewater services. Partial servicing is discouraged under the Provincial Policy Statement and is only permitted to address failed systems and for infilling within existing settlement areas. This policy direction makes it unlikely that new development areas along the Lakeshore would be permitted on partial services. Provincial policy directs that where municipal services are not available, multi-unit/lot developments should be serviced with private communal services.

6.1 Future Steps

This study has established the current conditions and historic trends around occupation, land uses and development in the settlement areas of Huron-Kinloss. The intent of undertaking this work was to support and guide future studies regarding servicing and settlement. At this time, the Township does not have an established long-term plan for the provision of development lands and servicing. Planning for growth is difficult, it raises many questions and concerns; however, the absence of plan can be just as problematic. This is especially magnified in areas where there are external growth pressures, such as that exerted by Bruce Power.

Presently, the Official Plan for the Township directs that the majority of growth should occur within the primary settlement areas of Lucknow and Ripley, where there are full municipal services. Growth, however, has historically and continues to occur in the Lakeshore area with only limited growth in Ripley and Lucknow. This disconnect between reality and the planning documents presents a challenge for future planning and servicing efforts.

A Growth and Servicing Master Plan is an appropriate tool to address future growth and servicing in the settlement areas of Huron-Kinloss. A Master Plan would allow for the development and evaluation of community planning scenarios and servicing alternatives, based on local, current information. The Master Plan approach permits the development of rational, consistent and planned approaches to growth and servicing and a logical and comprehensive evaluation process. Evaluations as part of Master Plans incorporate servicing, planning and environmental considerations, as well as the needs of the existing and future population.

Critically, a Master Plan would also allow for the evaluation of the technical and economic impacts of any alternative planning and servicing strategies. This Master Plan would also incorporate public and agency consultation. A Master Plan could also be tailored to incorporate the requirements of a Comprehensive Review, should expansions of settlement areas be proposed.

Given the above, it is recommended that the Township continue with the Master Plan process. This report is a compendium of existing planning and technical background information that serves to guide and inform future discussions and decisions. With this information, the Township can proceed with developing an overarching plan and vision, which is the next step in the Master Plan process.

All of which is respectfully submitted.

B. M. ROSS AND ASSOCIATES LIMITED



Per

A handwritten signature in black ink, appearing to read "Lisa J. Courtney", written over a horizontal line.

Lisa J. Courtney, M.Sc., RPP, MCIP
Senior Planner



Per

A handwritten signature in black ink, appearing to read "Matthew Pearson", written over a horizontal line.

Matt Pearson, RPP, MCIP
Senior Planner

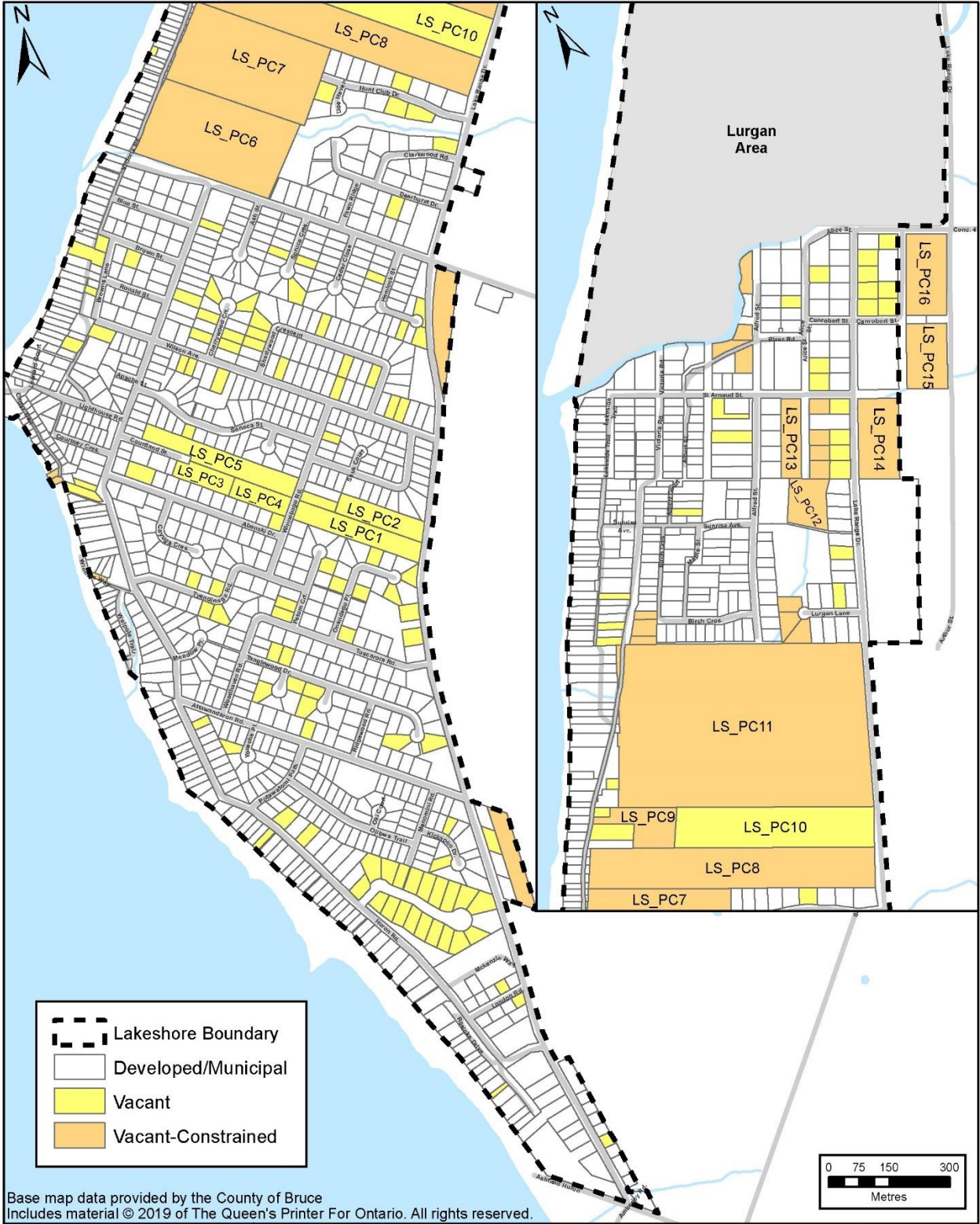
7.0 REFERENCES

- Ausable Bayfield Maitland Valley Drinking Water Source Protection Committee. (2015). *Approved Maitland Valley Source Protection Plan*.
- Ausable Bayfield Maitland Valley Source Protection Region. (2014). *Maitland Valley Source Protection Area Updated Assessment Report*.
- B. M. Ross and Associates Limited. (1997). *Risk Assessment Study for Continued Development on Septic System in the Lakeshore Area*.
- County of Bruce. (2017). *County of Bruce Official Plan*.
- Environment Canada. (2017). *List of Wildlife Species at Risk: Schedule 1*. Retrieved from <https://www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding/listing-process/wildlife-schedule-1.html>
- Ministry of Municipal Affairs and Housing. (2020). *Provincial Policy Statement*. Queen's Printer for Ontario.
- Ministry of Natural Resources and Forestry. (2017). *Make A Map: Natural Heritage Areas*. Retrieved from http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US
- Ontario Ministry of Agriculture, Food and Rural Affairs. (2016). *The Minimum Distance Separation (MDS) Document. Formula and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks*. Toronto: Queen's Printer for Ontario.
- Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Region. (2015). *Approved Assessment Report for the Saugeen Valley Source Protection Area*.
- Statistics Canada. (2017, November 29). *Huron-Kinloss, TP [Census subdivision], Ontario and Ontario [Province] (table). Census Profile*. Retrieved from 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>.
- Township of Huron-Kinloss. (2016). *Township of Huron-Kinloss Official Plan*.


Appendix A
Vacant Lot Inventories

Point Clark

Parcel ID	Classification	Notes
LS_PC1	Vacant	Potential to be severed into additional lots. Currently has holding zoning provision and small portion is zoned EP
LS_PC2	Vacant	Potential to be severed into additional lots. Currently has holding zoning provision and small portion is zoned EP
LS_PC3	Vacant	Potential to be severed into additional lots. Currently has holding zoning provision
LS_PC4	Vacant	Potential to be severed into additional lots. Currently has holding zoning provision
LS_PC5	Vacant	Recently severed into 6 lots (Irwin development)
LS_PC6	Vacant Constrained	Zoned OP and EP. Clark Creek runs through property. Area is also identified as a significant woodland.
LS_PC7	Vacant Constrained	Zoned OP and EP. Area is also identified as significant woodland. There is also potential for an unevaluated wetland.
LS_PC8	Vacant Constrained	Zoned OP and EP. Area is also identified as significant woodland.
LS_PC9	Vacant Constrained	Majority of property is zoned EP. Area is also identified as significant woodland.
LS_PC10	Vacant	Kempton Subdivision. 9 units proposed. Currently has holding zoning provision.
LS_PC11	Vacant Constrained	Zoned OP and EP. Area is also identified as significant woodland. Potential for unevaluated wetlands.
LS_PC12	Vacant Constrained	Zoned EP and identified as part of a significant woodland. There is also a large open drain through the centre of this property.
LS_PC13	Vacant Constrained	Zoned EP. Large open drain runs through road allowance. It is unlikely a road will ever be built in this area, as a result, there is no access to these lots.
LS_PC14	Vacant Constrained	Zoned EP and RH-1, but is also identified as a significant woodland
LS_PC15	Vacant Constrained	Zoned EP and AG1. Also identified as significant woodland. Potential for MDS setbacks to restrict residential development on property above the hill.
LS_PC16	Vacant Constrained	Zoned EP and AG1. Also identified as significant woodland. Potential for MDS setbacks to restrict residential development on property above the hill.
LS_PC17	Vacant	Elliott development – proposed X lots. Currently has holding provision.



Base map data provided by the County of Bruce
 Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH VACANT LANDS Point Clark		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:13,000	FIGURE No. 2.18

Lurgan Beach

Parcel ID	Classification	Notes
LS_LB18	Vacant Constrained	Zoned EP and adjacent to Pine River. No road access to property.

Blairs Grove

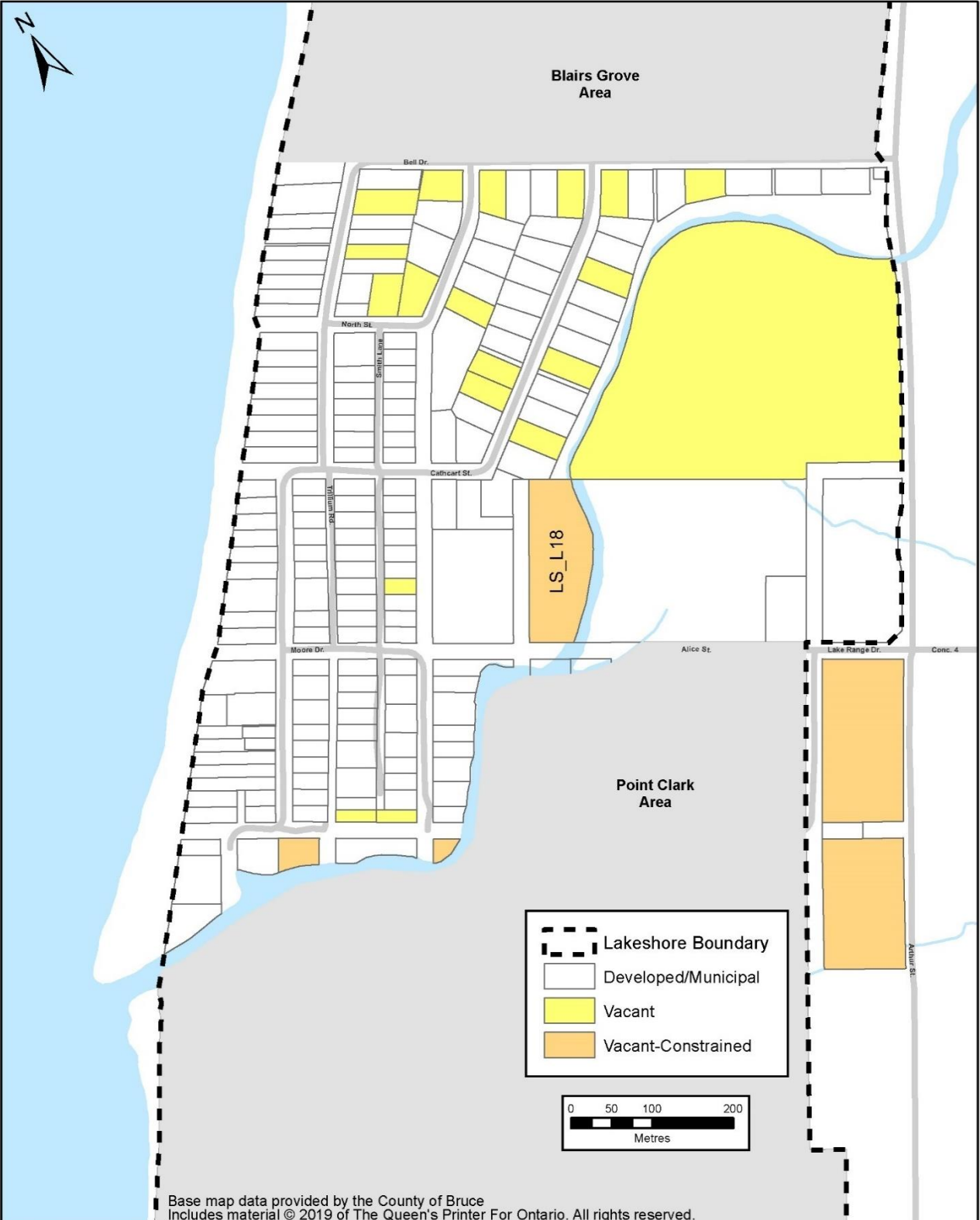
Parcel ID	Classification	Notes
LS_BG19	Vacant Constrained	Zoned EP and OS. Area is also identified as a significant woodland.

Bruce Beach

Parcel ID	Classification	Notes
LN_BrB1	Vacant Constrained	Zoned OS. Area identified as a significant woodland.
LN_BrB2	Vacant Constrained	Zoned OS and EP. Area identified as significant woodland
LN_BrB3	Vacant	Portion of property adjacent to Lake Range Drive zoned for residential development with a holding provision.
LN_BrB4	Vacant Constrained	Currently used for private roadways
LN_BrB5	Vacant Constrained	Currently used for private roadway
LN_BrB6	Vacant Constrained	Currently utilized for tennis court
LN_BrB7	Vacant Constrained	Zoned EP. Areas identified as significant woodland.
LN_BrB8	Vacant Constrained	Zoned OS. Area utilized for tennis court, baseball diamond.

Heritage Heights

Parcel ID	Classification	Notes
LN_HH9	Developed	Classified as developed because there is an existing residence. Property is proposed for redeveloped. The Crimson Oak subdivision would see an additional 77 single detached units.
LN_KB10	Vacant	Potential to subdivide this property. Currently has holding provision.
LN_KB11	Vacant	Potential to subdivide this property. Currently has holding provision.



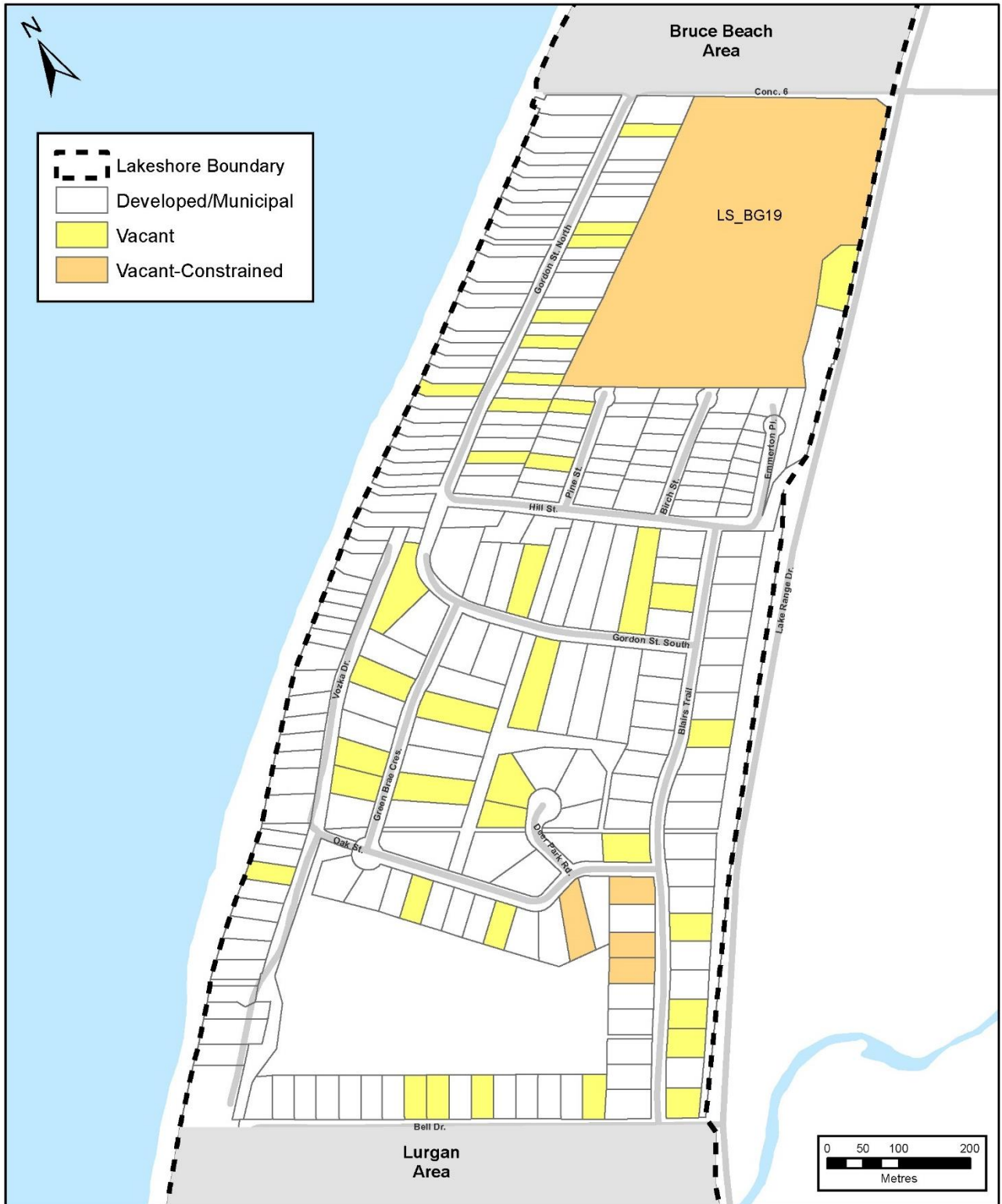
TOWNSHIP OF HURON-KINLOSS
GROWTH AND SERVICING PLAN
BACKGROUND PLANNING AND ISSUES REPORT
LAKESHORE SOUTH VACANT LANDS
Lurgan

DATE
DEC. 2019


SCALE
1:6,500

PROJECT No.
18265

FIGURE No.
2.19




Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

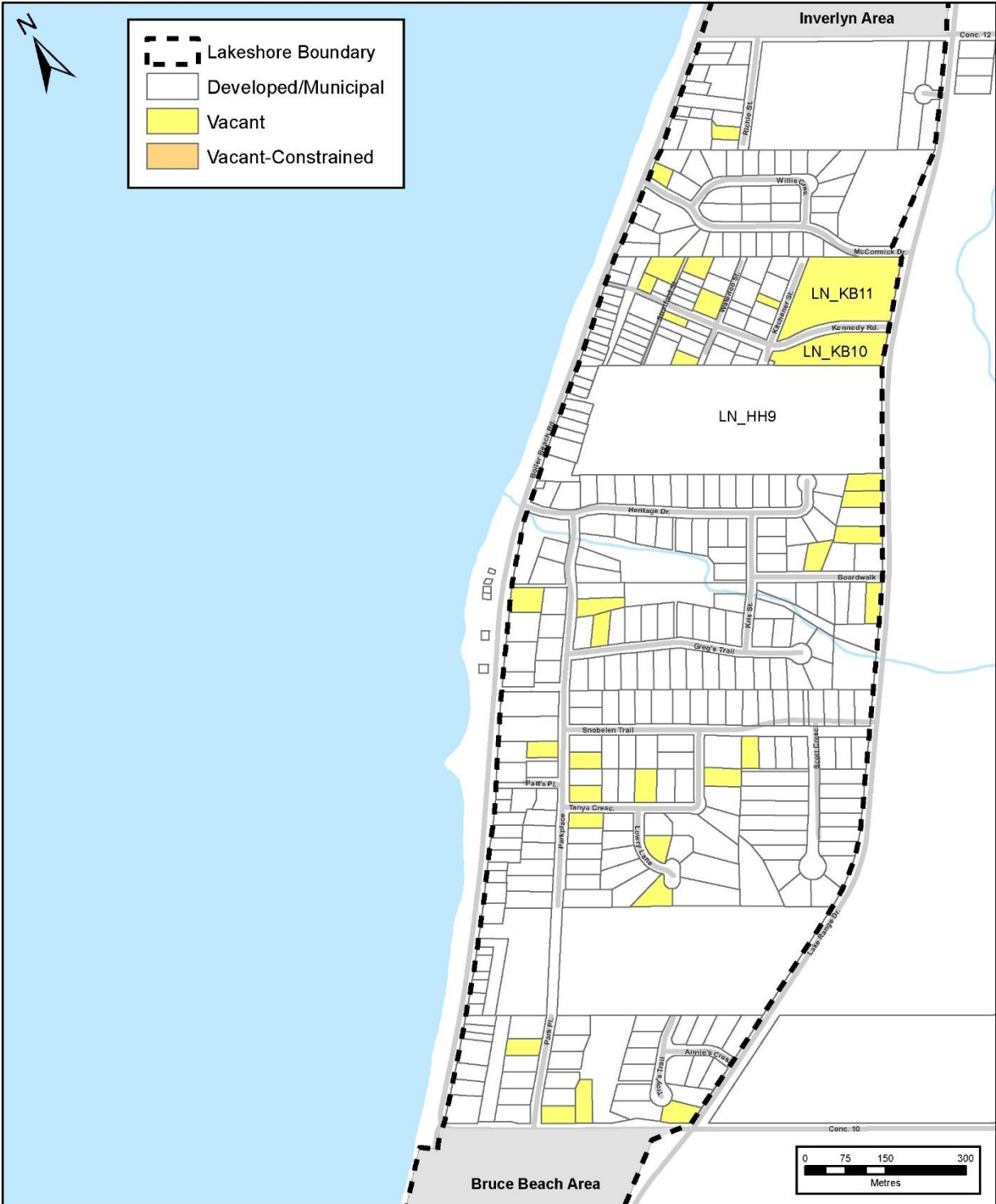
	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE SOUTH VACANT LANDS Blairs Grove		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:7,500	FIGURE No. 2.20




Base map data provided by the County of Bruce
 Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.



	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH VACANT LANDS Bruce Beach	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:10,000	FIGURE No. 2.21



Base map data provided by the County of Bruce
 Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	<p align="center"> TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH VACANT LANDS Heritage Heights, Kin Bruce and South Boiler Beach </p>	DATE DEC. 2019	PROJECT No. 18265
		SCALE 1:10,000	FIGURE No. 2.22

Inverlyn Lake/Huronville

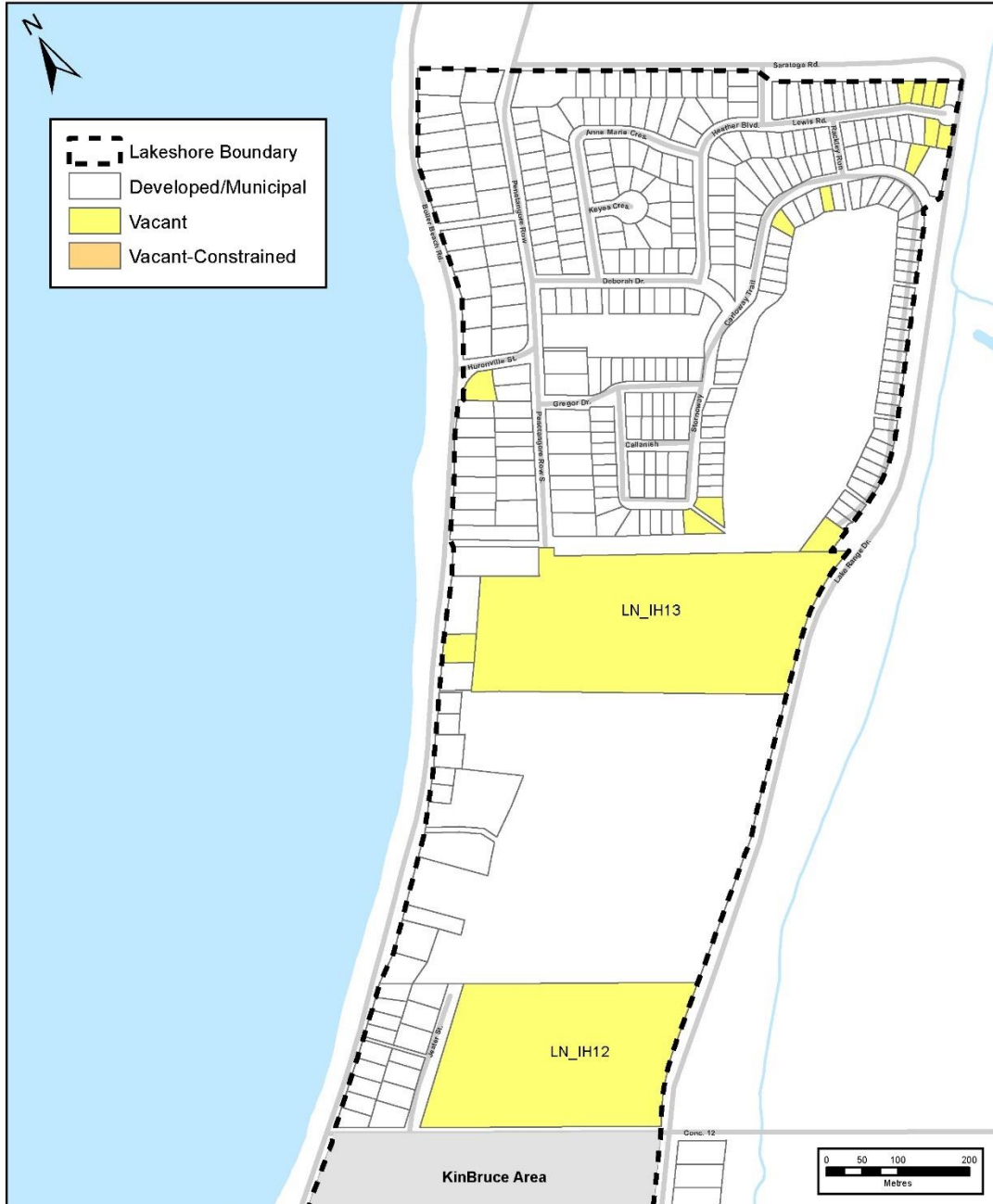
Parcel ID	Classification	Notes
LN_IH12	Vacant	Zoned residential but has holding provision. Adjacent property is currently utilized as aggregate operation. Property likely can be subdivided into additional lots, however it is unlikely this will occur until the adjacent aggregate operations cease.
LN_IH13	Vacant	Portion of this property is a large pond. Adjacent property is utilized for aggregate operation. Portion of this property could be subdivided once aggregate operations cease.

Ripley


Parcel ID	Classification	Notes
R_1 (north)	Developed/Municipal/Agricultural	Municipally owned land, designated for an industrial park
R_1 (south)	Developed/Municipal/Agricultural	Land is utilized for Ripley sewage lagoons and associated setback
R_2	Developed/Municipal/Agricultural	Parcel currently has buildings, but there is a Plan of Subdivision for 110 units
R_3	Vacant	Currently utilized for agricultural purposes. Zoned for future residential and light industrial
R_4	Vacant-Constrained	Zoned residential, but currently there is no servicing or road access.
R_5	Vacant	Currently used for agricultural purposes. Has an open drain through the middle of the property. Zoned residential but has a holding provision.
R_6	Developed/Municipal/Agricultural	Currently used for agricultural purposes. Zoned residential but has a holding provision.

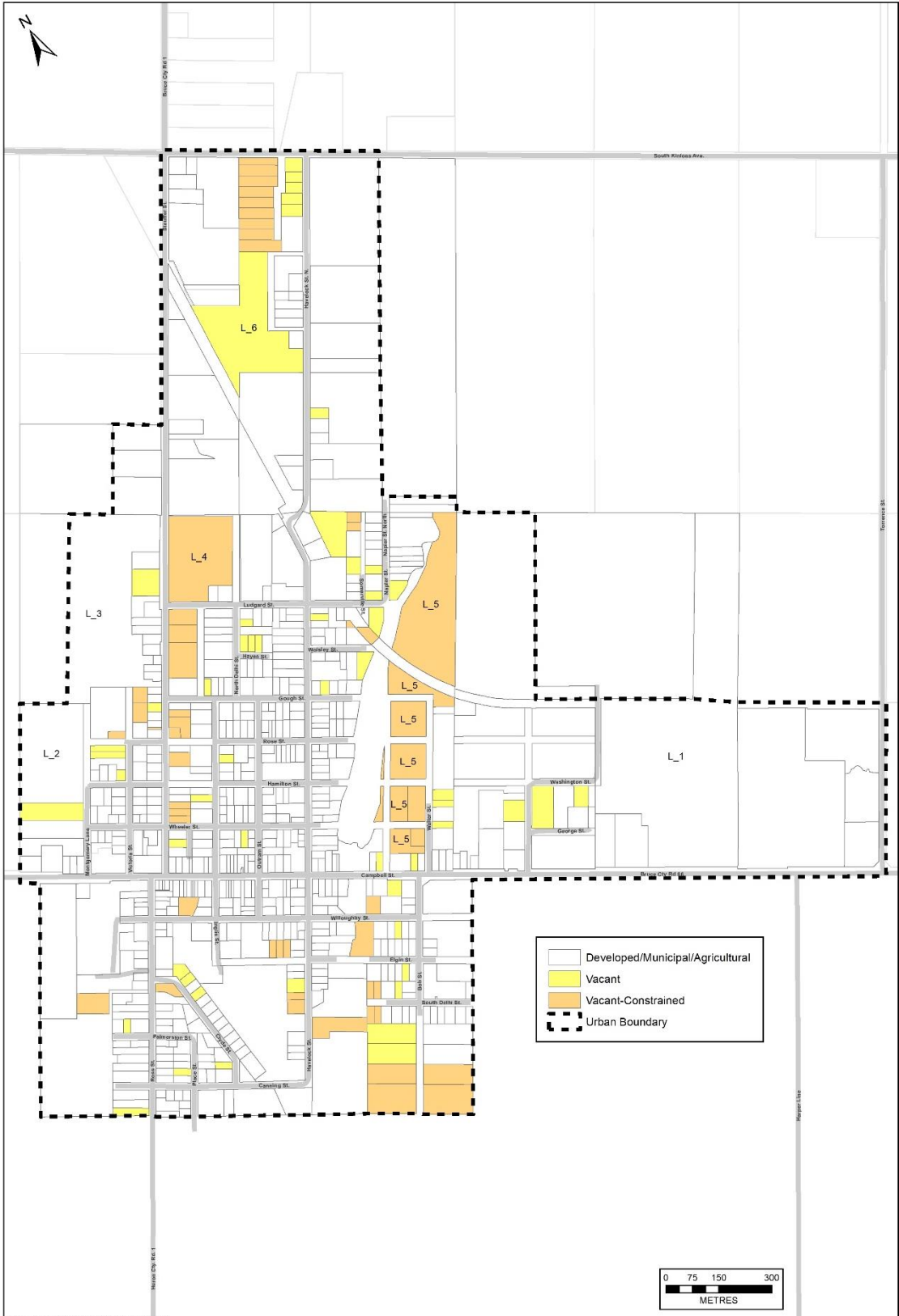
Lucknow

Parcel ID	Classification	Notes
L_1	Developed/Municipal/Agricultural	Currently used for agricultural purposes – zoned for future development
L_2	Developed/Municipal/Agricultural	Currently used for agricultural purposes. Potential for a 70-unit development.
L_3	Developed/Municipal/Agricultural	Currently used for agricultural purposes. Zoned for future development.
L_4	Vacant-Constrained	Zoned EP.
L_5	Vacant-Constrained	Zoned EP with small section near Walter Street and Campbell Street zoned R1-H(f)
L_6	Vacant	Potential to develop portion of this large lot adjacent to Havelock Street, interior of lot zoned EP.



Base map data provided by the County of Bruce
Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.

	TOWNSHIP OF HURON-KINLOSS GROWTH AND SERVICING PLAN BACKGROUND PLANNING AND ISSUES REPORT LAKESHORE NORTH VACANT LANDS Inverlyn, Huronville and North Boiler Beach		DATE DEC. 2019	PROJECT No. 18265
			SCALE 1:7,500	FIGURE No. 2.23



Base map data provided by the County of Bruce
 Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.



TOWNSHIP OF HURON-KINLOSS
GROWTH AND SERVICING PLAN
BACKGROUND PLANNING AND ISSUES REPORT
VACANT LANDS - LUCKNOW

DATE DEC. 2019	PROJECT No. 18265
SCALE 1:10,000	FIGURE No. 2.16



Base map data provided by the County of Bruce
 Includes material © 2019 of The Queen's Printer For Ontario. All rights reserved.