WATER AND SANITARY SYSTEMS

TECHNICAL STUDY – ARTHUR

November 7, 2025

Prepared for:

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1 INTRODUCTION

1.1 General

The community of Arthur is a growing urban community located within the Township of Wellington North (Township) that is serviced by municipal water and sanitary systems. In 2023, the Township of Wellington North retained Watson & Associates Economists Ltd., in association with WSP Canada Inc to conduct a Growth Management Action Plan (GMAP) for the Township of Wellington North, which is discussed in a subsequent section.

The purpose of this current Water and Sanitary Systems Technical Study – Arthur (Technical Study) is to update the previously completed (2020) Technical Study to reflect revised future development expectations and infrastructure upgrades/extensions. This update will include revisions to the computer simulation models of the water and sanitary systems in Arthur based on current conditions to evaluate the adequacy of the systems to meet the needs of the existing community (i.e. calendar year 2025) and to service the future development scenarios to calendar year 2051 and beyond. The expected population growth is based on the information presented in the GMAP, dated August 16, 2024 along with anticipated future developments as identified by the Township.

Further, this Technical Study will formulate a long-term servicing strategy through the identification of specific infrastructure upgrades/extensions required in order to provide adequate municipal services for future development within Arthur.

1.2 Wellington North Community Growth Plan Final Report (Watson & Associates Economists Ltd, August 2024)

Watson & Associates Economists Ltd, in association with WSP Canada Inc. completed a GMAP to "*serve as a guiding document that broadly addresses the future impacts of growth related to municipal service delivery, infrastructure requirements, urban land needs and land use planning policy, economic development, and financial sustainability as the Township evolves*.". The GMAP provides details on the expected growth between 2021 and 2051 and primarily focuses on the urban areas of the communities of Arthur and Mount Forest; however, rural settlements within the Township are also considered. Details of the GMAP are documented in the Wellington North Growth Management Action Plan Report dated August 14, 2024 is included in Appendix A1.

With respect to infrastructure, the GMAP provides a high-level infrastructure and service assessment from both a fiscal and operational perspective. Despite the forgoing, the GMAP states "*It is important to note that this high-level infrastructure and service assessment is considered a starting point in exploring the impacts of growth. Furthermore, it is the intention of this assessment to identify areas the Township will need to explore as part of further study.*"

This current Technical Study provides further assessment of infrastructure needs to service future growth.

2 FUTURE DEVELOPMENT PROJECTIONS

2.1 General

The GMAP indicates that the Township of Wellington North is projected to reach a population of 20,500 by 2051. Arthur is expected to experience an average annual population growth rate of 1.4% until 2051. Currently, Arthur's estimated population is 3,300, with approximately 1,500 additional people and 600 households anticipated to be added between 2024 and 2051 which is summarized in Table 2.1 below. Per the GMAP, "…*Mount Forest and Arthur have sufficient land available within the Urban Centre boundary to accommodate population growth to 2051. While the Township does not require additional lands outside the Urban Centres boundary to accommodate growth, it does require approximately 81 gross hectares (200 gross acres) of Future Development lands to be redesignated for Community Area uses. This is anticipated to accommodate just over 600 housing ERUs, as well as parkland, local roads, and commercial/institutional uses.*".

The population growth forecast in the GMAP for Arthur recognizes that available capacity resulting from the Phase 2 expansion of the Arthur Wastewater Treatment Facility may be a constraint to development and the built-up area (BUA) delineated by the Province as part of the 2006 Growth Plan which identifies where intensification, including re-development and infill as expected to occur. Intensification can be achieved through infilling and development of existing vacant land in the built-up area, building expansions or conversion, or redevelopment. Figure ES-2 in the GMAP projects a 20% intensification rate within the BUA, which represents the minimum required growth by the Township to be accommodated within the BUA by 2051.

Development outside of the delineated built-up area (i.e. "intensification area" or BUA), but within the urban boundary that is designated for urban land uses (i.e., designated greenfield areas [DGA] or "urban expansion area") is called greenfield development. The current designated greenfield area target for the Township is 32 residents and jobs per hectare.

Equivalent residential units (ERUs) are the unit used to provide an equivalent value for various dwelling types. For the simplicity of this technical update it has been assumed that 1 unit regardless of dwelling type is assumed to equal 1 ERU. ERUs for commercial/industrial/institutional (ICI) developments were calculated by dividing the estimated commercial/industrial flow by the per person sanitary flow rate as outlined in the 2025 RCC. This provides an estimated population value based on the flow rate which could then be divided by the People per unit (PPU) for the corresponding stage, resulting in an estimated number of units.

Table 2.1 - Arthur Growth (as per GMAP)

Arthur Growth (as per GMAP)				
Year	Population (Capita)	Households (Equivalent Residential Units, ERUs)	Capita per ERU	Growth (Capita/Year)
2024	3,300	1,252	2.66	-
2031	3,900	1,500	2.60	81.0
2036	4,200	1,600	2.63	60.0
2041	4,400	1,660	2.65	40.0
2046	4,700	1,780	2.64	60.0
2051	4,800	1,840	2.61	20.0

The current GMAP projections for this technical study have been adjusted to incorporate a full build-out of proposed developments, future unit counts, and corresponding population estimates that were not originally specified in the GMAP document. The projections have been updated to incorporate draft plan submission data, as well as commercial and industrial areas, providing a more comprehensive view of the full build-out of all proposed developments. Industrial areas have also been converted to a population by estimating the amount of flow these developments will produce and converting said flow into an estimated population value. Growth projections from the GMAP have been categorized into four distinct scenarios, each with varying timelines based on criteria such as approval status, servicing allocation within the urban boundary, access to existing services and expected infrastructure required to service the development. Detailed descriptions of these scenarios can be found in Sections 2.2 through 2.5.

2.2 Development Scenarios

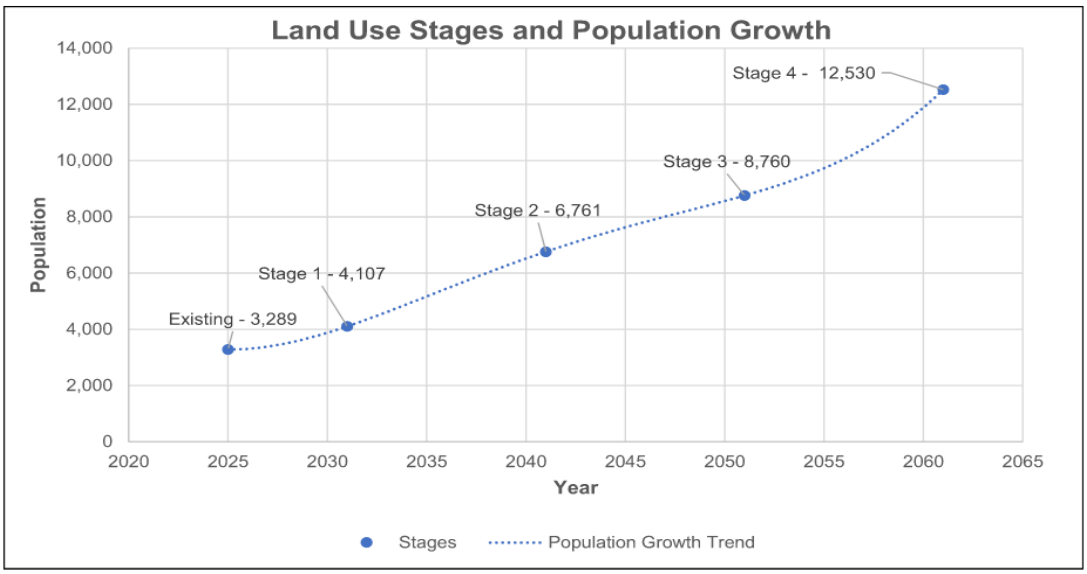
As per the developments indicated on Figure B-2 of the GMAP along with development draft/concept plan submissions, four Development Stages have been created based on expected development timing and/or stage within the development approval process. Developments within each Stage were assigned ERUs based on land availability and reasonable/expected growth densities described herein. Existing infrastructure capabilities for each Stage were assessed using existing models and recommendations for upgrades/extensions identified. The expectation is that modelling the future serviceability this way will flag infrastructure requirements and timing based on development scenarios (Stages). This information will then help the municipality make informed decisions regarding development areas based on infrastructure expansion/remediation costs. Further, this information will be used to size future infrastructure upgrades required to support development. Table 2.2 below presents an overview of projected population and available Equivalent Residential Units (ERUs) for both existing and future development scenarios assuming a full build out of future developments and current WWTP configuration/capacity. It should be noted that the total population for these Stages goes beyond the GMAP in order to consider all potential developments within the extended life of the infrastructure being considered.

Table 2.2 - Arthur Growth (Development Based)

Arthur Growth (Interpolated)			
Planning Period	Serviced Population	ERUs Added	People per Unit
Existing	3,289	0	2.63
Stage 1 (2025 - 2031)	4,107	314	2.60
Stage 2 (2031 - 2041)	6,761	1,003	2.65
Stage 3 (2041 - 2051)	8,760	766	2.61
Stage 4 (2051+)	12,530	1,445	2.61

Figure 2.1 - Arthur Growth (Development Based)

Figure 2.1



Development Growth

ARTHUR TECHNICAL STUDY, ARTHUR, ONTARIO

TRITON ENGINEERING SERVICES LIMITED

2.3 Stage 1 Development Scenario (2025 – 2031)

The Stage 1 Development Scenario includes developments that are currently in the process of developing or expected to develop by 2031. PPU for Stage 1 was estimated based on the 2031 GMAP PPU count of 2.60. Unit counts for developments in Stage 1 were based on subdivision/site plan submissions and GMAP data and assigned ERUs accordingly. Stage 1 includes an additional 12.1 hectares (ha) of land within Arthur's urban area boundary, with lands zoned as a combination of low density residential (86 ERUs), medium density residential (128 ERUs) and of high density residential (24 ERUs). The Stage 1 Development Area is presented on Figure 2.2 and the Future Land Use Table for the Stage 1 Development Area is presented in Appendix B1.

Golden Valley has been added to this table and is estimated to consume 156.5m^3/day (24.3 m^3/day every year) of reserve capacity based on the data obtained from the previous two years (2024, 2023). This equates to approximately 26 ERUs which was rounded to 28 ERUs to ensure Golden Valley was not under allocated.

As per the GMAP and 2006 Growth Plan, development within the existing built-up areas should intensify by 20%. As such, the 20% intensification of the total developments in this stage (R1-1 to R1-5) were added to this stage to represent this intensification resulting in 48 additional ERUs added by 2031 in the Stage 1 Scenario.

In total the Stage 1 Scenario is expected to add **314 residential ERUs** with an estimated population of **818 people.**

2.4 Stage 2 Development Scenario (2031 – 2041)

The Stage 2 Development Scenario includes developments that are anticipated to be serviced by the Phase 2 Wastewater Treatment Plant (WWTP) upgrade. PPU for Stage 2 was estimated based on the 2041 GMAP PPU count of 2.65. Unit counts for developments in Stage 2 were based on subdivision/site plan submissions where available, otherwise density/area was used. Stage 2 includes an additional 25.3 hectares (ha) of land within Arthur's urban area boundary, with lands zoned as a combination of low density residential (155 ERUs), medium density residential (84 ERUs), high density residential (201 ERUs), commercial (85 ERUs) and a 10.3ha industrial area (311 ERUs). The Stage 2 Development Area is presented on Figure 2.3 and the Future Land Use Table for the Stage 2 Development Area is presented in Appendix B1.

The 20% intensification of the total developments in this stage (R2-1 to IL2-1) were added to this stage to represent this intensification resulting in 167 additional ERUs added by 2041 in the Stage 2 Scenario.

In total the Stage 2 Scenario is expected to add **1,003 residential, commercial and industrial ERUs** with an estimated population of **2,653 people.**

2.5 Stage 3 Development Scenario (2041 – 2051)

The Stage 3 Development Scenario includes developments that are anticipated to be serviced by beyond the Phase 2 Wastewater Treatment Plant (WWTP) upgrade. PPU for Stage 3 was estimated based on the 2051 GMAP PPU count of 2.61. Unit counts for developments in Stage 3 were based on subdivision/site plan submissions where available, otherwise density/area was used. Stage 3 includes an additional 19.7 hectares (ha) of land within Arthur's urban area boundary, with lands zoned as a combination of low density residential (30 ERUs), medium density residential (100 ERUs), high-density residential (25 ERUs), commercial (51 ERUs) and a 14.1ha industrial area (432 ERUs). The Stage 3 Development Area is presented on Figure 2.4 and the Future Land Use Table for the Stage 3 Development Area is presented in Appendix B1.

The 20% intensification of the total developments in this stage (R3-1 to IL3-1) were added to this stage to represent this intensification resulting in 128 additional ERUs added by 2051 in the Stage 3 Scenario.

In total the Stage 3 Scenario is expected to add **766 residential, commercial and industrial ERUs** with an estimated population of **1,999 people**.

2.6 Stage 4 Development Scenario (2051+)

Similar to the previous scenario, the Stage 4 Development Scenario includes developments that are anticipated to be serviced beyond the Phase 2 WWTP upgrade. Unit counts for developments in Stage 4 were based on subdivision/site plan submissions where available, otherwise density/area was used. PPU for Stage 4 was estimated based on the 2051 GMAP PPU count of 2.61. Stage 4 includes an additional 80.6 hectares (ha) of land within Arthur's urban area boundary, with lands zoned as a combination of low density residential (523 ERUs), medium density residential (333 ERUs as per the latest Draft Plans provided), a 5ha commercial area (153 ERUs) and a 15.9 ha site for future undetermined uses (estimated at 195 ERUs). The Stage 4 Development Area is presented on Figure 2.5 and the Future Land Use Table for the Stage 4 Development Area is presented in Appendix B1.

The 20% intensification of the total developments in this stage (FD4-1 to UFD4-3) were added to

this stage to represent this intensification resulting in 628 additional ERUs added beyond 2051 in the Stage 4 Scenario.

In total the Stage 3 Scenario is expected to add **1,445 residential, commercial and undetermined ERUs** with an estimated population of **3,770 people**.

3 WATER SUPPLY AND STORAGE

3.1 Existing System

The Arthur water system is a single pressure zone watermain distribution network that is pressurized by two elevated water storage tanks. Water is supplied to the system from three overburden (groundwater) wells and two pumphouses. The system provides fire protection to the entire service area and currently provides service to its permanent population of approximately 3,300 and 1,265 residential units and 103 Industrial/Commercial/Institutional (ICI) properties, according to Township records (2024).

Operation of the system is controlled by a Supervisory Control and Data Acquisition (SCADA) system. The system is a demand/storage system. Generally, well pumps are called on and turned off based on water levels in the storage towers. These levels are set by the operators based on storage requirements, volume turnover needs and well pumping constraints. The SCADA system also provides real-time monitoring and record keeping.

3.2 Source Capacity

Water supply is provided by three overburden wells, named Well No. 7B, and Well No. 8A and Well No. 8B. The locations of these wells are presented on Figure 4.1. A summary of details for each well is as follows:

Well No. 7B:

- Located at 109 Wells Street West near the Conestogo River.
- Commissioned in 1998.
- 46 m deep drilled.
- Well pump is a submersible type complete with a 30kW (40 hp) motor which discharges directly to the distribution system (i.e., no highlift pumps).
- Rated capacity is 22.7 l/s (1,961 m^3/day).
- Disinfection using sodium hypochlorite. Contact time is provided by oversized discharge main.
- Iron sequestering treatment provided.

Well No. 8A/8B:

- Located at 7560 Jones Baseline, approximately 1.15 km south of County Road 109 and 235 m east of Highway 6.
- Commissioned in 2005.
- Depth of wells are 61.9 m and 62.2 m for 8A and 8B, respectively.
- Well pumps are submersible type complete with a 30 kW (40hp) motor which discharges directly to the distribution system (i.e., no highlift pumps).
- Rated capacities are 26.1 l/s (2,255 m^3/day) each; however, the Permit to Take Water (PTTW) allows for the operator to pump either Well 8A or Well 8B, but not both wells concurrently. Therefore, total production from this facility is limited to 2,255 m^3/day.

- Disinfection using sodium hypochlorite. Contact time is provided by oversized discharge main.
- Treatment for high manganese is provided.
- Standby power provided by diesel generator.

The available water supply capacity of the Arthur municipal water system is 4,216 m^3/day. The system capacity represents the cumulative sum of all the wells rated capacities (1,961 m^3/day Well 7B and 2,255 m^3/day each Well 8A and Well 8B), which is based on the limiting condition (i.e., production limit) of the capacity of the well's respective PTTW, DWWP or pumping equipment.

3.3 Future Water Demands

A review of the historical water usage rates (3 Year average) within Arthur indicate that the Maximum Residential Day Demand (MDD) Per Capita is 266 L/day/capita as presented in the 2025 Reserve Capacity Calculation (RCC) is below the typically expected rate for domestic use. In communities of similar size and configuration, the MDD is typically between 300 and 500 L/day/capita. However given the historical MDD is lower than this, an MDD of 300 L/day/capita will be used for future residential demand.

For future ICI demands Section 3.4.3 of MECP (formerly Ministry of the Environment [MOE] Design Guidelines for Drinking Water Systems 2008 (Guidelines), a demand of 28 m^3/ha/day is appropriate for estimating where actual demand is unknown, this equates to 26 ERU per hectare of ICI. For the purposes of this study, the ICI area demands are accounted for within the total unit demands, as shown in Appendix B1.

The MDD per-person rates within the recently completed Water Class EA are notably higher, as the projected growth accounts only for residential areas. In contrast, this review has already incorporated converted proposed ICI lands into a population equivalent. This is outlined in Table 3.1.

Table 3.1 - Water Usage Projections

Stages	Equivalent Population (Capita)	ERUs	MDD (m^3/day/capita)	MDD (m^3/day/ERU)	Total MDD (m^3/day)
Existing	3,289	1,265	0.266	0.700	1,514
Stage 1	4,107	1,579	0.300	0.781	1,759
Stage 2	6,761	2,582		0.786	2,555
Stage 3	8,760	3,348		0.785	3,155
Stage 4	12,530	4,793		0.784	4,286

MECP Guidelines recommend that the Firm Capacity should be greater than MDD so that daily demand can be met if storage is offline. These criteria have been used to assess the capability of Arthur's water supply infrastructure (i.e. wells/treatment) to satisfy future growth.

3.3.1 Water Supply Reserve Capacity

Triton completed a Reserve Capacity Calculation (RCC) for the Arthur water system for 2025, in accordance with the requirements outlined in the MECP's *Design Guidelines for Drinking Water Systems.* The reserve capacity is based on the system's Firm Capacity, which is defined as the

supply capacity of the system (Source Capacity) with the largest source out of service. Using the Firm Capacity to determine the reserve capacity ensures sufficient redundancy in the system for water supply and treatment in case of an equipment failure or source issues.

The available water supply capacity (Source Capacity) of the Arthur municipal water system is 4,216 m^3/day. The system capacity represents the cumulative sum of all the wells rated capacities (1,961 m^3/day Well 7B and 2,255 m^3/day each Well 8A and Well 8B), which is based on the limiting condition (i.e., production limit) of the capacity of the well's respective PTTW, DWWP or pumping equipment.

The largest source of water in the Arthur water system is Well 8A or Well 8B, each with a rated capacity of 2,255 m^3/day; however, failure of both of these wells is unlikely given that it is a dual system and has standby power. Failure of Well 7 is more likely, therefore the Firm Capacity of the system is 2,255 m^3/day (since Wells 8A and 8B cannot be pumped concurrently).With this figure being used as the Existing Firm Capacity, and based on recent water demands (i.e. calendar years 2022, 2023 and 2024), the 2025 total MDD (1,514 m^3/day) in Arthur has not exceeded the Firm Capacity of its water system. Currently this leaves 741 m^3/day of surplus/reserve capacity, which corresponds to 1,058 available equivalent residential ERU. The New Reserve Capacity as shown in Table 3.2 considers the addition of a new 27 L/s (2,333 m^3/day) well (New Well) which is expected to come online sometime during Stage 2. With the New Well added the future Firm Capacity of the system would be 4,216 m^3/day, which is the amount the system could deliver if the New Well as offline, with only Wells 7 and 8 remaining in operation. Refer to Table 3.2 and Appendix C1 for the existing water supply RCC.

Table 3.2 – Summary of Water Usage Projections and Reserve Capacity

Year	Population (Capita)	Households (ERU)	MDD (m^3/day)	Existing Firm Capacity (2,255m^3)		New Firm Capacity (4,216m^3)	
				m^3	ERU	m^3	ERU
Existing	3,289	1,265	1,514	741	1,058		
Stage 1	4,107	1,579	1,759	496	636		
Stage 2*	6,761	2,582	2,555	-300	-378	1,661	2,088
Stage 3	8,760	3,348	3,155			1,061	1,356
Stage 4	12,530	4,793	4,286			-70	-90

**New reserve capacity is with the New Well at Macaulay St added to the system, which is expected at the start of Stage 2.*

3.3.2 Additional Source Capacity

Table 3.2 presents a summary of the existing and future reserve capacity for the future population projections based on the Firm Capacity. Table 3.2 also takes into consideration the New Well that will come online in Stage 2 sometime in the mid to late 2030s. Based on the water usage projections presented in Table 3.1 and Firm Capacity listed in Table 3.2, MDD will slightly exceed the Firm Capacity during Stage 4, despite the current and future expansion of Firm Capacity. It should be noted that the existing capacity is obtained from only two pumphouses. If either of these supply sources were compromised, it would have a significant impact on the system's ability to meet future MDD requirements. Therefore, it is crucial that the Township is proactive in securing a future water source since establishing this, and the infrastructure required to deliver this water

to the system can be a lengthy and onerous process. Further, identifying these sources as soon as possible, even before they are needed is critical as it may affect the configuration and sizing of future watermain upgrades and extensions.

R.J. Burnside & Associates Limited (Burnside) was retained by the Township in 2021 to complete an assessment and initial exploration for a new water source, per the recommendations of the Arthur Water and Sanitary Systems Technical Study (November 2020) and Reserve Capacity Calculations for Arthur's Water System, to support the eventual associated Class EA project. Burnside's well exploration study included a desktop evaluation of background information, including local overburden and bedrock geology; alternatives for additional water, well exploration; and a summary of conclusions and recommendations. The results of the study are documented in the report by Burnside entitled Arthur Preliminary Well Exploration Assessment (May 6, 2021) (Well Exploration Assessment), are summarized as follows:

- The addition of a New Well is the preferred solution to address the water supply and redundancy issues.
- A test well (TW1-21) was drilled as part of the well exploration assessment which assessed the following criteria:
    - Water production of at least 10 l/s
    - Water quality that meets or exceeds the current and expected future Ontario Drinking Water Standards (ODWS).
- The test well is expected to have a capacity of 27 L/s with acceptable quality having water quality that meets the current and future ODWS for sulphate, iron, and manganese. Given this the well was recommended to be considered as a potential municipal water source.

To this end, the Township has commenced preliminary testing on the construction of the New Well at the TW1-21 testing site, located on the corner of Macaulay St and Wells St. It should be noted that Macaulay St is currently an unopened right-of-way but is expected to be constructed in conjunction with future development in time to meet demand needs. The New Well is expected to be constructed in conjunction with the new water tower that will be built at the same location. Additional information regarding the new water tower is discussed in section 3.4.

3.4 Storage

Storage for the Arthur water system is provided by two elevated facilities. A summarized description of each facility is as follows:

Multi-Leg Tower:

- Located near the intersection of Charles Street East and Isabella Street, in the southeast part of the system (195 Isabella Street East).
- Multi-Legged steel tank
- Commissioned in 1932
- Volume is 227 m^3
- Operation range: 494.2 m – 499.6 m

Spheroid Tower:

- Located just north of Smith Street between Preston and Wells Streets in the northwest part of the system (460 Smith Street).
- All steel spheroid tank
- Commissioned in 1967
- Volume is 1,137 m^3
- Operation range: 494.0 m – 499.2 m

Based on discussions with Township staff, these facilities have been recently inspected and no significant deficiencies were noted. However, the Multi-Leg Tower has reached the end of its service life, therefore it is expected to be decommissioned once additional storage is made available. The total system storage volume currently available is 1,364 m^3.

Storage requirements for the water system are based on MECP Guidelines. The calculation for storage requirement is as follows:

Total Treated Water Storage Requirement = A + B + C

Where: A = Fire Storage (MECP suggested flow/duration based on population)
B = Equalization Storage (25% of MDD)
C = Emergency Storage (25% of A+B)

The calculated storage requirements for the development stages are summarized in Table 3.3. Detailed calculations are provided in Appendix C3.

Table 3.3 - Water Storage Requirement Summary

Development Stages	Spheroid Tower (m^3)	New Tower 1 (m^3)	New Tower 2 (m^3)	Required Stage Storage (m^3)	Storage Surplus (m^3)
Existing*	1,137	Not online	Not online	1,124	240
Stage 1 *				1,696	-332
Stage 2		1,900		2,973	64
Stage 3				3,416	-379
Stage 4	Decommissioned	3,000	2,500	4,309	1,191

*Multi-Leg included therefore total storage available is 1,364 m^3.

Note: Volumes for New Tower 1&2 have been estimated based on typical tank diameters and operating ranges. These values do not necessarily reflect the final design volumes, however, they have been provided for illustration/planning purposes.

Fire flow requirements for the water system are based on MECP Guidelines. These requirements for the development stages are summarized in Table 3.4

Table 3.4 – Fire Storage Requirements (as per MECP Guidelines)

Development Stages	Required Fire Flow (L/s)
Existing	114
Stage 1	127
Stage 2	161
Stage 3	180
Stage 4	220

3.4.1 Existing

Based on Table 3.3, the current required storage volume (1,124m^3) is less than the storage available for the existing population (1,364m^3). This translates to a surplus storage of 240m^3

available to the existing water system.

A computer simulation model (i.e. WaterCAD V8i) of the Arthur water system was created as part of the Master Plan and has been updated to support this technical study. As per the updated computer model (WaterCAD), based on existing conditions, the normal pressure throughout the existing distribution network ranges from approximately 40psi to 80psi which is within an acceptable range.

3.4.2 Future Storage Requirements

The storage volume requirements to support future growth, as per the GMAP, are outlined in Table 3.3 . This calculation indicates that the existing available storage will be insufficient for the projected population by Stage 1. This deficit will be moderate (i.e. 332m^3) however, this deficit can be somewhat offset by the surplus of supply capacity as shown in Table 3.2. The Multi-Leg Tower will be decommissioned at the start of Stage 2 as it has exceeded its usable service life. New Tower 1 should come online prior to the buildout of Stage 2 to supplement the Spheroid tower and provide required water storage. It is expected that with the Spheroid Tower and New Tower 1 working in conjunction, there will be a slight surplus of storage available. Stage 3 will have a moderate storage deficit of 379m^3. Similar to Stage 1, this deficit can be somewhat offset by excess water supply production as shown in Table 3.2.

The 2024 inspection of the Spheroid Tower noted a number of recommended maintenance items, however there were no significant issues noted. Despite this, it should be noted that the Spheroid Tower was constructed in 1969, and assuming an 80-year service life, the tower will have reached its theoretical service life in 2049. Stage 4 will see the Spheroid Tower reach the end of its service life and will be decommissioned. This will require the addition of New Tower 2 and allow for the increase in system operating level by 3m for both New Tower 1 & 2 creating a surplus storage of 1,191m$^{3.}$ It should be noted that nearing Stage 3 build-out, a more in-depth water storage review, including sizing analysis and location for New Tower 2 will need to be completed prior to Stage 4 coming online.

From an operational standpoint, when New Tower 1 and Spheroid Tower are operating together it will be necessary for the New Tower #1 High-Water Level (HWL) to be restricted to that of the Spheroid Tower (498.703m). This will be the case during Stages 2 and 3. After the Spheroid Tower is decommissioned (i.e., Stage 4), New Tower 1 HWL can be increased by 3m to a HWL of 501.703m. This will allow the full storage volume of the New tower #1 to be realized and increases the system pressure by 4.3 PSI. New Tower 2 will have the same HWL.

Triton conducted a location review using system pressure, typography and available land to determine an ideal location in Arthur to locate the New Tower 1. Three locations were reviewed: Macaulay St, east end of Gordon St and Eliza St (Tucker St & Eliza St Intersection). The options produced similar hydraulic results, however the Macaulay location was ultimately chosen due to the long-term pumping efficiency given the proximity to the New Well and Well 7 and being adjacent to future industrial lands typically requiring higher process and fire flows. Placing the tower strategically near future development areas at a higher elevation reduces the height of tower (i.e., less capital cost). The tower will be serviced by two 300mm watermain extensions, via Macaulay St and Wells St. East. This dual-tower operation not only enhances the system's redundancy but also ensures a smoother transition and integration of new infrastructure, mitigating risks of supply disruptions during the development phases. It should be noted that the New Well and New Tower 1 design will be done in conjunction with one another to ensure they function as an integrated system. Planning and preliminary design for New Tower 2 has not yet begun. Ultimately, this approach aligns with the community's long-term growth plans, balancing

immediate infrastructure needs with future scalability and resilience.

3.4.2.1 Spheroid Tower & New Tower with separate/higher Pressure Zone

As indicated above, the storage deficit projected by Stage 1 is 332m^3, requiring a new tower to be constructed. Although Arthur has a relatively consistent topography, the future development areas to the north and northeast are at higher elevations than the rest of the existing community. The existing system operating level (OL) will result in pressures that would be very low in these development areas. There are a number of methods to increase the pressure within these Development areas however the costs and operational complexity associated with the implementation of these are typically a deterrent. There is an opportunity to increase the pressure across the entire existing and future water system, which would sufficiently increase the pressure within the future development areas. This would, however, require the decommissioning of the existing towers. Therefore, if the future development areas advance ahead of the end of the useful life of the existing towers, temporary mitigation measures may be required. These areas should be reviewed in detail prior to implementation.

3.4.2.2 Recommended Approach

In summary, the recommended approach and reasoning related to system storage implementation strategy is outlined below:

- Decommissioning of the Multi-Leg Tower is recommended given its age, limited volume and on-going remedial/maintenance costs. Despite this, having a second tower on the system does provide advantages from an O&M standpoint. Therefore ideally, this could occur once the New Tower #1 is commissioned assuming there aren't significant issues with the Multi-Leg Tower in the meantime.

- Spheroid Tower is well into its service life and may require significant and maintenance (i.e., painting, corrosion treatment) within the planning horizon of the required additional storage. These repairs will need to be completed to ensure the Tower remains operational through to Stage 3. Utilizing the Spheroid Tower within its service life will allow for a two-tower system after the Multi-Leg has been decommissioned. Given this, the proposed strategy is to plan to utilize the Spheroid Tower to the end of its typical service life which will take it to the end of Stage 3. However, additional storge will be required shortly after Stage 1 so New Tower 1 will be required.

- New Tower 1 will be constructed to satisfy Stage 3 volume requirements in conjunction with the same operating level as the Spheroid Tower to better satisfy future needs. However, retaining the Spheroid Tower in the system would not allow the New Tower 1 to be operated at the higher operating level unless a separate pressure zone is created. A dual pressure zone would increase the complexity of the system, increase capital and operating costs, and limit the benefit of the increased operating level. Therefore, it is recommended that the New Tower 1 be operated at a maximum level equal to the Spheroid Tower until the Spheroid is decommissioned, after which the operating level of the system can be increased and the full storage of the New Tower 1 made available.

- New Tower 2 would be sized and commissioned based on future growth beyond Stage 3 but would have the same operating level as New Tower 1.

- The new towers would be equipped with improved features (i.e., separate fill/draw risers,

provisions for mixing/re-chlorination, improved safety/accessibility).

Note that modelling of the various Stages of development provided in subsequent sections assumed the well and tower configurations as outlined in the section.

4 WATER DISTRIBUTION NETWORK

4.1 Existing

The distribution network currently services all existing developed areas within Arthur's urban boundary. The network includes approximately 21 km of watermain ranging in size from 50 mm to 600 mm, with 1,340 service connections. The distribution network trunk consists of 250 mm and 300 mm diameter watermain, which runs from Wells 8A/8B along Jones Baseline, Highway 6, George Street and Smith Street, past the Spheroid Tower to Wells Street and along Wells Street West to Well 7B. Type of watermain used to construct the distribution network has varied over the years and includes cast iron, ductile iron and PVC. Any recent upgrades or extensions have been PVC. Figure 4.1 presents the existing watermain distribution network by size and material, respectively.

The updated WaterCAD model was used to estimate the fire flow capabilities throughout the water distribution network for the current community and for each of the development scenarios. A minimum residual pressure of 20 psi was used to establish water taking capability, consistent with the normal accepted industry standard for firefighting. This review also assumes that the system is operating during maximum day demand, with the municipal wells running to support the fire effort. Results of this analysis, which reflect the available flow from the mains at a location in the system, rather than a specific hydrant, are provided in the following sections for each of the development scenarios.

Generally, higher fire flows are required in industrial and high-density commercial areas (i.e., downtown core), with actual fire flow requirements being site specific. Fire flow requirements are dependent on a variety of factors such as construction materials, separation distances, land use etc. Generally, the MOE recommends a minimum 30 L/s capability throughout a system that provides firefighting service. For evaluation of the system storage requirements throughout Stages 1 to 4, the MECP population based recommended fire flow figures shown in Table 3.4 were used. Based on these criteria, the Arthur system generally provides adequate fire flows throughout the network. The lower flow areas are generally restricted to dead-end areas. Fire flow scenarios can be simulated using the model to assess system performance for specific properties/developments or system conditions, as required.

There has been a number of network improvements completed in Arthur since the Master Plan Study was completed in 2012, however a number of watermains remain that are recommended for upgrade and/or replacement, see Table 4.1 below. These replacements are not specifically related to development, rather they are required due to end of service life or considered deficient. A summary of these watermains is provided below. Cost associated with these replacements are shown in Table 4.7.

Table 4.1 – Recommended Water System Replacements

Location	Size (mm)	Length (m)
Edward Street	150	260
Frederick Street West (Edward Street to George Street)	150	140
Walton Street (Clarke Street to Tucker Street)	150	175
Clarke Street (Domville Street to 150m South of Walton Street)	150	400
Eastview Drive (Eliza Street to Bellefield Crescent)	150	960
Bellefield Crescent	150	375
Lynwood Place	150	250
Adelaide Street (Clark Street to Conestoga Street)	150	240
Conestoga St (Domville to 100m South of Walton)	150	300

The watermain extensions required to service the proposed Development Stages are detailed in Sections 4.2 to 4.5.

Modelling for future development Stages has been completed assuming the recommended upgrades and decommissionings are implemented as discussed early. These include the following:

- Decommissioning of the Multi-Leg St Tower for Stages 2-4.
- Commissioning of New Tower 1 to support Stage 2 (approx. 2031).
- Commissioning of the New Well to support Stage 2 (approx. 2031).
- Decommissioning of Spheroid Tower approximately 2051.
- Commissioning of New Tower 2 to support Stage 4 (approx. 2051).

4.2 Stage 1 Development Scenario

Table 4.2 – Stage 1 Development Water Serviceability

				Existing Towers	
Figure ID	Development Name/Description	Area (ha)	ERUs	Fire Flow* (L/s)	Pressure* (PSI)
R1-1	Forest View Subdivision (Allocated)	2.4	50	134	54
R1-2	Harvestview Subdivision	4.0	62	53	46
R1-3	VED Homes (Allocated)	1.0	34	97	57
R1-4	Seawaves Development (Allocated)	1.2	37	91	49
R1-5	Eastridge Phase 5	3.5	55	93	45

*Expected pressure/fire flow based on existing topographical info (typical for all modelling).

Based on the above, fire flows within these developments are above the minimum MOE guideline of 30 L/s. The lower than expected fire flow at Harvestview is due to its location on a dead-end

main. Oversizing of local mains to achieve higher fire flows is not typically recommended as water quality issues may result from excessive residency time. It should be noted that the typical fire flow requirement for the Stage 1 development are developments based on MECP design guidelines suggests Stage 1 development have a suggested fire flow of 127 L/s as indicated in table 3.4

Distribution system improvements/upgrades to the existing system are likely required to service areas within the Stage 1 Development Scenario, these include:

- The replacement on Conestoga (Domville-100m South of Walton) watermain to support R1-3 development.

Watermain extensions required to support Stage 1 are as follows:

- Draper, Anderson and Farrell Lane support R1-2 and R1-4. These will be local mains (150 mm).

4.3 Stage 2 Development Scenario

Table 4.3 – Stage 2 Development Water Serviceability

				Spheroid + New Tower 1	
Figure ID	Development Name/Description	Area (ha)	ERUs	Fire Flow* (L/s)	Pressure* (PSI)
R2-1	168 George St Development	0.3	16	175	62
R2-2	320 Smith St Development	1.1	15	163	58
R2-3	211 Eliza St Development	12.7	439	118	43
R2-4	152 Frederick St Apartment	0.9	55	151	70
IL2-1	Development Southeast of Wells St & Macaulay St	10.3	311	261	52

Based on the above, there are no recommended upgrades/improvements required to the existing water distribution system to service areas within the Stage 2 Development Scenario. The low pressure observed in the Sarah Properties development is likely due to the Spheroid and New Tower 1 operating at the same HWL. Once the Spheroid is decommissioned, the HWL for New Tower 1 will be increased and New Tower 2 will be operational resulting in an improvement to the pressures at this development.

Watermain extensions likely required to support Stage 2 are as follows:

- Wells East (Domville – Macaulay), Macaulay (Wells East – Eliza) and Eliza (Macaulay – Tucker) to support IL2-1. These would be trunk mains (300 mm).

Vertical water infrastructure required to support Stage 2 is as follows:

- New Tower 1, to be located at the corner of Wells Street East and Macualey Street.
- Multi-Leg Tower will be decommissioned at the start of Stage 2.

4.4 Stage 3 Development Scenario

Table 4.4 – Stage 3 Development Water Serviceability

				Spheroid + New Tower 1	
Figure ID	Development Name/Description	Area (ha)	ERUs	Fire Flow* (L/s)	Pressure* (PSI)
R3-1	178 Frederick St West Lot Development	1.9	121	111	62
R3-2	Draper/Anderson St Development	2.8	55	100	44
R3-3	335 & 341 Smith St Development	0.9	30	128	62
IL3-1	Development Southwest of Eliza St & Macaulay St	14.1	432	136	48

Based on the above, there are no recommended upgrades/improvements required to the existing water distribution system to service areas within the Stage 3 Development Scenario.

Also, there are no additional extensions beyond those completed in Stage 1 and 2 required to the water distribution system to service areas within the Stage 3 Development Scenario.

4.5 Stage 4 Development Scenario

Table 4.5 – Stage 4 Development Water Serviceability

				New Tower 1 @ higher OL + New Tower 2	
Figure ID	Development Name/Description	Area (ha)	ERUs	Fire Flow* (L/s)	Pressure* (PSI)
FD4-1	West of Charles St & WR109	1	12	151	71
FD4-2	West of Charles St & WR109	3	37	46	68
FD4-3	West of Charles St & WR109	5	153	42	82
UFD4-1	Development above Macaulay St	17.3	264	245	61
UFD4-2	Development East of Eliza St & Tucker St North of Macaulay St	38.4	543	200	60
UFD4-3	Development East of Eliza St & Tucker St South of Macaulay St	15.9	195	94	53

Based on the above, there are no recommended upgrades/improvements required to the existing water distribution system to service areas within the Stage 4 Development Scenario.

Watermain extensions likely required to support Stage 4 are as follows:

- Preston St South (Wellington Road 109 to end of existing watermain on Preston St S) to support FD4-2 and FD4-3. This will be a minor trunk main.
- Wellington Road 109 (Charles St W to Wells St W) to support FD4-1, FD4-2 and FD4-3.

This will be a minor trunk main.

- Wells West (Wellington Road 109 to end of existing watermain on Wells W to eliminate dead ends on Wells W and Wellington 109. This will be a minor trunk main.
- Eliza St extension from Tucker St approximately 630m north along Eliza St) to support UFD4-2,3&4. This will be a trunk main.

Vertical water infrastructure required to support Stage 4 is as follows:

- New Tower 2, the location will need to be determined through the appropriate regulatory process.

4.6 Summary of Watermain Upgrades, Extensions and Replacements

The following tables provide a summary of the expected watermain system extensions, their service areas, as applicable and the expected costs of the watermain construction. Note, the costs indicated include costs associated with the provision of services at 20m intervals on both sides of the road, restoration of the road such as road granular and asphalt re-instatement. Costs do not include costs associated with construction/replacement of curbs, sidewalks, or installation of storm sewers or the provision of temporary water. Refer to Figure 3.1 for a layout of watermain extensions and replacements.

Table 4.6 – Water System Extensions

Location	Size (mm)	Length (m)	Served Development Area	Estimated Infrastructure Cost ($)
Stage 1 (2025 – 2031)				
Draper St, Farrell Ln & Anderson St	150	600	R1-2, R1-4	$1,140,000
Stage 2 (2031 – 2041)				
Wells St E (Domville to Macaulay St.)	300	850	IL-2	$1,997,500
Macaulay St (Wells St E.to Eliza St.)	300	630		$1,480,500
Eliza St (Macaulay St. to Tucker St.)	300	175		$411,250
Stage 3 (2041 – 2051)				
No required watermain improvements				
Stage 4 (2051+)				
WR 109 (Charles to Wells St E)	250	2000	FD4-1, FD4-2, FD4-3	$4,460,000
Wells St E (Well 7 to WR 109)*	250	190		$449,000
Eliza St (Tucker to the creek)	300	400	UFD4-1, 4-2	$1,470,000
Preston St (WR 109 to existing water)*	250	350	FD4-2, FD4-3	$735,000
Stage 1 Total				**$1,140,000**
Stage 2 Total				**$3,889,250**
Stage 3 Total				**$-**
Stage 4 Total				**$7,114,000**
Total (All Stages)				**$12,143,250**

*Additional $50,000 included for directional drilling beneath Conestoga River.

Table 4.7 – Horizontal Water Infrastructure Replacement Cost

Location	Size (mm)	Length (m)	Estimated Infrastructure Cost ($)
Edward St (Limits)	150	260	$613,600
Adelaide Street (Clarke to Conestoga St)	150	260	$613,000
Frederick Street W (Edward to George St)	150	150	$354,000
Walton St (Clarke Street to Tucker St)	150	175	$413,000
Clarke St (Domville to 150m South of Walton St)	150	310	$731,600
Eastview Drive (Eliza St to Bellefield Cr)	150	300	$708,000
Bellefield Cr	150	350	$826,900
Lynwood Pl	150	225	$531,000
Conestoga St (Domville to 100m South of Walton)	150	300	$708,000
Total Replacement Cost			**$5,499,100**

Table 4.8 – Vertical Water Infrastructure Cost

Infrastructure Item	Year	Estimated Infrastructure Cost ($)
New Tower 1*	2031	$9,600,000
New Tower 2	2051+	$9,500,000
Multi-Leg Decommissioning	2031	TBD
Spheroid Tower Repairs**	2025 - 2031	$1,950,000
New Well	2031 - 2041	$4,655,000
Total Replacement Cost		**$16,205,000**

*As per September 19, 2025, Budget Pricing (Landmark Structures).
**As per May 27, 2024, Inspection Report (Landmark Structures).

5 WASTEWATER COLLECTION AND TREATMENT

5.1 Existing Infrastructure

The Arthur wastewater system includes a dedicated sanitary sewer/forcemain collection network, two sewage pumping stations (SPS), a wastewater treatment plant (WWTP) and an effluent storage lagoon facility.

5.1.1 Collection System

The network services the entire developed area of Arthur (i.e. within the urban boundary) and currently provides 1,340 service connections, according to Township records (2024). The network includes approximately 19.1 km of sewer, ranging in size (diameter) from 150 mm to 450 mm, approximately 4 km of forcemain that is 150 mm to 300 mm in diameter. The type of sanitary sewer pipes varies within the network and includes asbestos cement, concrete and PVC. Upgrades and extensions to the sanitary sewer network within the last 10-15 years have been PVC pipe. The existing sanitary sewer collection system is presented on Figure 5.2.

5.1.2 Treatment Plant

The Arthur WWTP is located at the south end of Preston Street near the Conestogo River. The plan provides tertiary treatment utilizing the extended aeration process. The treatment process components include:

- *Preliminary Treatment*: grit channels, comminutor, manual bar screen.
- *Secondary Treatment*: aeration, secondary clarifier.
- *Tertiary Treatment*: filtration, ultra-violet disinfection.
- *Biosolids Management*: aerobic digestion, biosolids storage.
- *Effluent Pumping Station*: two effluent pumps to transfer treated effluent from the WWTP to the lagoons during the non-discharge period.
- *Discharge*: to the Conestogo River during the discharge period, effluent is stored in the lagoons *during* the non-discharge period.

The rated average day flow (ADF) capacity of the WWTP is 1,860 m^3/day, and discharges to the Conestogo River (River); however, due to assimilative capacity limitations of the River, discharging to the River is restricted to between October 1st and May 31st. Between June 1st and September 30th, effluent from the WWTP must be pumped to the effluent storage lagoons for holding until discharging to the River is permitted.

The most recent Schedule C Class Environmental Assessment (XCG, 2016) was completed for the WWTP, which recommended the plant and associated Frederick St. SPS be expanded in a phased approach from the previously rated capacity a 1,465 m^3/d to the current 1,860 m^3/d (Phase 1- completed 2021) and 2,300 m^3/d (Phase 2 - pending). Since WWTP information is available from the referenced EA document, this Technical update will not provide information or comment on this infrastructure in detail.

5.1.3 Sewage Pumping Stations

The collection network for the Arthur wastewater system is divided into three service areas, and is collected by the following trunk sewer and sewage pumping stations:

Wells Street SPS:
The Wells Street SPS pumps via a 1 km - 150 mm diameter PVC/AC forcemain to a manhole at the intersection of Preston and Smith Streets. This SPS receives primarily industrial flows from the industry located in the west side of the town.

Preston Street Trunk Sewer:
Preston Street trunk sewer services Preston Street and the western portion of Domville Street along with the Wells SPS discharge. This service area flows by gravity directly into the Arthur WWTP and services a mix of residential and industrial users.

Frederick Street SPS:
The Frederick Street SPS receives the majority of the flows in the community including the central, southern and eastern portions of the system. It pumps directly into the WWTP through a 750 m long, 250 mm diameter forcemain. This SPS services primarily commercial and residential flows.

5.1.4 Reserve Capacity

Triton completed a review of the reserve capacity for the Arthur WWTP for 2025, in accordance with the requirements outlined in the MECP guidelines. The ADF based on flows recorded at the WWTP in calendar years 2022, 2023, and 2024 is 1,341 m^3/day, which is in compliance with the Certificate of Approval for the WWTP. The WWTP reserve capacity of 519 m^3/day corresponds to an additional 564 ERUs that can be served; however, given that 168 ERUs are currently committed to Golden Valley Farm's, the reserve capacity corresponds to 396 uncommitted ERUs. Refer to Appendix D1 for the 2025 Reserve Capacity Calculations for the Arthur WWTP.

5.1.5 Per Person Flow Rate

The existing average per person flow rate in Arthur is estimated at 408 L/day, however this value includes ICI flows which are significant within the community. Our expectation is that as the community continues to grow with primarily residential development, the per person flow rate will begin to decrease to more typical values. Therefore, for future planning purposes, the MECP recommended per person flow rate of 350L/day was used. This rate should be reviewed as part of the annual RCC and adjusted accordingly if actual per person flows decrease significantly. As with the water RCC, it is recommended that any significant future ICI developments be required to apply for sewage treatment allocation to ensure that the RCC reflects future usage requirements.

5.1.6 Future Reserve Capacity

Based on the growth as described in section 2 above, the information presented in the Arthur Wastewater Treatment Plant Expansion Design Brief, and the calculations shown in Table 5.1.6 below, it is expected that the Phase 2 expansion should be commissioned by 2030 in order to keep pace with the development. Refer to Figure 5.1 below.

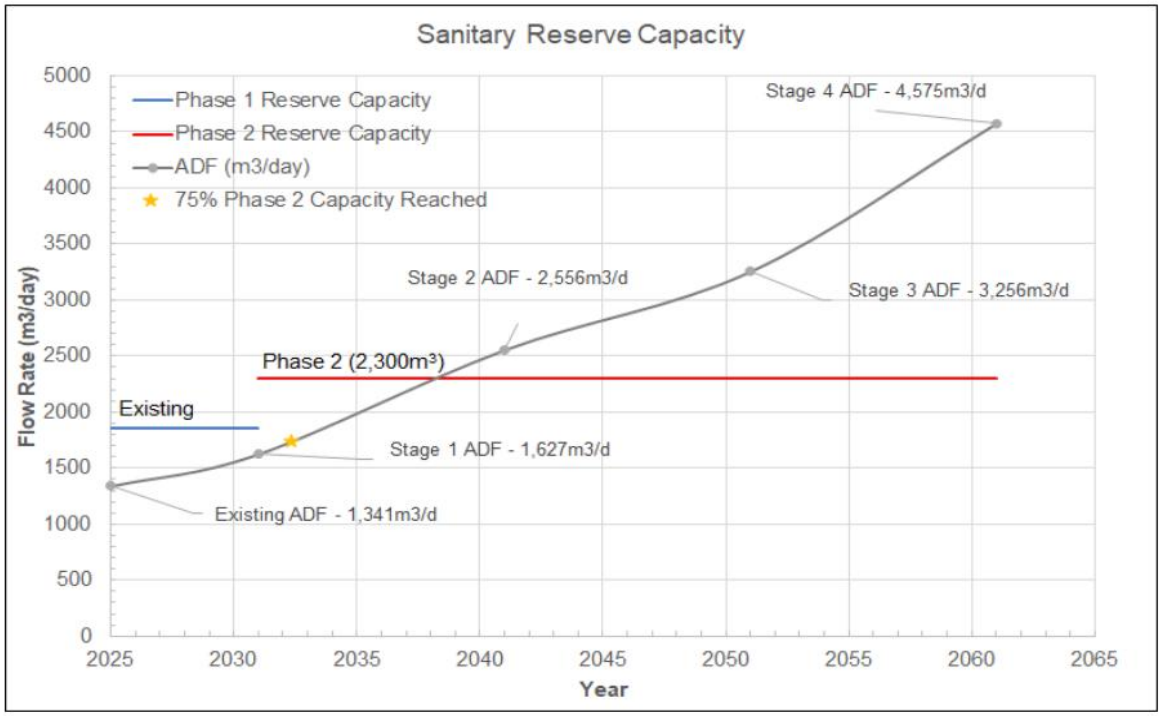
The proposed Phase 2 plant expansion is expected to have sufficient capacity to accommodate a portion of Stage 2 development until approximately 2038 which is slightly more than halfway through Stage 2. At that time, additional capacity will need to be brought on-line to accommodate the remainder of Stage 2 development.

Table 5.1.6 – Future Sanitary Reserve Capacity

Stages	Population (Capita)	ERUs	ADF (m^3/day)	Phase 1 Reserve Capacity (1,860m^3)		Phase 2 Reserve Capacity (2,300m^3)	
				m^3	ERU	m^3	ERU
Existing	3,289	1,265	1,341	519	570		
Stage 1 (2025-2031)	4,107	1,579	1,627	233	256		
Stage 2 (2031-2041)	6,761	2,582	2,556			-256	-276
Stage 3 (2041-2051)	8,760	3,348	3,256			-956	-1,047
Stage 4 (2051+)	12,530	4,793	4,575			-2,275	-2,492

Figure 5.1 – Future Sanitary Reserve Capacity

Figure 5.1



Future Sanitary Reserve Capacity

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TRITON ENGINEERING SERVICES LIMITED

It should be noted that operating a WWTP at or near 100% capacity is discouraged due to increased risk of operational challenges. The Township is recommended to begin facility expansion planning once the WWTP reaches approximately 75% capacity to ensure potential constraints are avoided. The Phase 2 expansion of the WWTP is expected to reach 75% capacity shortly after 2032.

Typically, a treatment facility should be operating within 75% of its maximum treatment capacity. 75% of the existing WWTP is 1,395m^3/day which is nearly being met under existing average day flows. Planning for future treatment solutions should commence no later than in 2032, when the Phase 2 plant expansion is expected to reach 75% capacity (see Future Sanitary Reserve Capacity Graph in Figure 5.1 and Appendix D2). This future planning should evaluate the additional infrastructure and upgrades required to support sanitary flows associated with the Stage 4 development scenario.

To date, there are no plans to expand the current WWTP beyond the proposed Phase 2. The first step in this process would be for the Township to undertake the appropriate regulatory process (i.e., Municipal Class EA) to consider and evaluate the options for the future treatment of the increased sewage flows. The Conestogo River (River) is the primary constraint on the Townships' ability to expand wastewater treatment capacity due to its limited ability to assimilate effluent from June through September under low flow conditions. As the River serves as the final recipient

rather than a passage to another water body, maintaining year-round discharge would only be viable if the future WWTP were upgraded to produce exceptionally high-quality effluent which would come at an onerous economic cost. As part of, or, in advance of, the necessary process, an Assimilative Capacity Study (ACS) of the River should be undertaken to confirm background information required for design.

5.1.6.1 Future Treatment (Phase 3)

If the existing WWTP is expanded to a 3rd Phase (Phase 3) the wastewater treatment capacity is expected to be least 2,300 – 3,000m^3/day greater than the Phase 2 WWTP capacity (2,300m^3/day) to accommodate Stage 4. If the existing WWTP is expanded, it would then have a total treatment capacity of at least **4,600m^3/day.**

5.1.6.2 Limiting Factor - Receiver

As listed within the ECA Permit for the Arthur WWTP, during the discharge period, the WWTP is permitted to discharge 28 – 148% of the seven-day low flow within a 20-year return period (7Q20 flows), as listed below. It is worth noting that the 7Q20 flow during no discharge period (June-September) is 0.005m^3/s (432m^3/day) which is a very low flow condition.

Based on this, it would be unlikely that an updated ACS will yield an allowable increase unless there were anomalies/errors in the original or there has been a steady increase in river flows in recent years, resulting in an increased 7Q20. An updated ACS would confirm this. Further to this, increasing effluent release rates may be permissible if the effluent flow was closely tied to the River flows. However, this may not result in an overall increase in rated capacity as design criteria is typically based on the 7Q20 flow.

Month	Days	Max Effluent (m^3/day)	Monthly Volume (m^3)	7Q20		Effluent % of 7Q20
				m^3/s	m^3/day	
January	31	5,000	155,000	0.054	4,665.6	107%
February	28	5,000	140,000	0.039	3,369.6	148%
March	31	5,500	170,500	0.063	5,443.2	101%
April	30	3,200	96,000	0.087	7,516.8	43%
May	31	1,300	40,300	0.053	4,579.2	28%
June	30	0	0	0.005	432.0	0%
July	31	0	0	0.005	432.0	0%
August	31	0	0	0.006	518.4	0%
September	30	0	0	0.005	432.0	0%
October	31	1,400	43,400	0.022	1,900.8	74%
November	30	4,600	138,000	0.076	6,566.4	70%
December	31	3,800	117,800	0.060	5,184.0	73%
Total			**901,000**			
Total per day			**2,468**			

5.1.6.3 Existing Lagoons - Capacity

The Arthur WWTP cannot discharge for 122 days a year due to limited assimilative capacity, therefore, WWTP effluent needs to be stored in the lagoons during this period. The lagoons have a total capacity of 343,000m^3 which allows for an average day flow of 2,811m^3/day which is not sufficient to accommodate the higher daily rate required by Phase 3 (4,600 m^3/day). The total allowed discharge from the existing WWTP is described on a maximum average daily basis per month in the ECA Permit and is a total of 901,000m^3 the other 243 days a year.

Given that the discharge is already exceeding the 7Q20 for many of the discharge months, increasing discharge is not likely a viable option.

5.1.6.4 Expected Costs (Phase 3 Expansion)

Despite the foregoing challenges, if the existing WWTP including Phase 2 expansion is feasible to expand into a Phase 3 expansion, the estimated cost would be expected to have an incremental treatment cost comparable to those of the Phase 1 and Phase 2 expansions.

Phase 1 was completed in December 2020 and increased capacity from 1,465 to 1,860m^3/day, an increase of 395m^3. The cost of this phase was $4.7M, resulting in a cost of $11,898 per m^3 of treatment capacity gained.

Phase 2 has not been completed; however it will increase capacity from 1,860 to 2,300m^3/day, an increase of 440m^3. This results in an estimated cost of $13.5M, or $30,682 per m^3 of treatment capacity gained.

To increase the treatment capacity from 2,300 to 4,600m^3/day, as discussed above, the cost is expected to be approximately $57.5M, based on a modified average of the historic costs noted above.

$$2{,}300m^3 \times \$25{,}000/m^3 = \$57.5M$$

5.1.6.5 Expected Costs - New WWTP (3,000m^3/day)

If it is determined that expansion to the existing WWTP is not a viable option, a new sewage treatment plant (STP) and outlet would be required. It is not typically reasonable to construct a new facility to the minimum future sewage flow, and so it is assumed that this future STP would be rated for at least 3,000m^3/day.

A nearby, comparable, WWTP being constructed is expected to cost $114M as awarded in March 2022 at a cost of $15,895 per m^3 of treatment. Using this example and prorating the costs, a new WWTP with a treatment capacity of 3,000m^3/day can be expected to cost approximately **$48M.**

$$3{,}000m^3/day \times \$16{,}000/m^3 = \$48M$$

5.2 Collection System Evaluation

A computer simulation model (i.e. SewerCAD V8i) of the Arthur sanitary collection system was created to support this technical study to estimate peak flows throughout the network and compare them to the hydraulic capacity of the various sewers and forcemain under the various development scenarios and expected population growth. Sanitary sewers exceeding 100%

capacity were identified as sewers of concern requiring review for replacement. Typically, the threshold for replacement is set at 120% rather than 100% because sanitary manholes can accommodate some surcharge once the sewers reach full capacity. However, sewer identified as >100% should be reviewed/monitored in detail prior to road reconstruction to confirm if existing sewer is adequate going forward. Section 5.2 to 5.3 further discuss the sanitary conveyance capacity of the sanitary sewer network when Stages 1-4 are implemented.

5.2.1 Stage 1 Development Scenario

Sewer extension on Anderson St/ROW from just north of Gordon to Farrell St and along Draper St is needed to support R1-2 and R1-4.

5.2.2 Stage 2 Development Scenario

There are a few sewers of concern (>100%) that should be monitored along Francis St and Frederick St. However, during this stage no sewers are exceeding capacity to the point where replacement is required. A summary of these sewers can be seen in Table 5.2.2 below.

It should be noted that 75% of the treatment capacity of Phase 2 of the WWTP expansion is estimated to be reached shortly after 2032 (early in Stage 2) with 100% of the Phase 2 capacity being reached shortly after 2038, still within Stage 2.

Table 5.2.2 – Stage 2 Sewers of Concern

Street	Start MH	End MH	Diameter (mm)	Slope (%)	Percent Full (%)
Francis St	MH 179	MH 178	200	0.36	114.9
	MH 178	MH 177	200	0.41	110.3
	MH 177	MH 176	200	0.42	109.2

The main sewer extension required to support Stage 3 are required as follows:

- A 300mm PVC main on Wells St E (Rail Trail – Macaulay) and Macaulay St (Well St E – Eliza St).

5.2.3 Stage 3 Development Scenario

To service the developments within Stage 3 there are no sanitary sewer extensions or upgrades required. However, there are a few sewers of concern that should be monitored along Francis St and Frederick St. A summary of these sewers can be seen in Table 5.2.3 below.

Note: Phase 2 of the WWTP Expansion will be exceeded within Stage 2.

Table 5.2.3 – Stage 3 Sewers of Concern

Street	Start MH	End MH	Diameter (mm)	Slope (%)	Percent Full (%)
Francis St	MH 179	MH 178	200	0.36	114.9
	MH 178	MH 177	200	0.41	110.3
Frederick St	MH 78	MH 77	300	0.13	109.9
Francis St	MH 177	MH 176	200	0.42	109.2

Based on the above, there are no recommended upgrades/improvements required to the existing sanitary distribution system to service areas within the Stage 3 Development Scenario.

Also, there are no recommended extensions required to the existing sanitary system to service areas within the Stage 3 Development Scenario.

5.2.4 Stage 4 Development Scenario

Under the Stage 4 conditions the following sanitary sewers are over capacity and require monitoring as indicated in Table 5.2.4. Note, this assumes full development of lands within Stage 1, Stage 2, Stage 3 and Stage 4.

Note: Phase 2 of the WWTP Expansion will be exceeded within Stage 2.

Table 5.2.4 – Stage 4 Sewers of Concern

Street	Start MH	End MH	Diameter (mm)	Slope (%)	Percent Full (%)
Frederick St West	MH 78	MH 77	300	0.13	126.5
Francis St	MH 179	MH 178	200	0.52	113.9
	MH 178	MH 177	200	0.42	110.3
	MH 177	MH 176	200	0.42	109.2

Sewer main upgrade required to support Stage 4 are required as follows:

- Install a 350mm PVC main from MH 78 to MH 77 on Frederick Street, replacing the existing 300mm asbestos cement main.
- Francis Street sewer flows are to be assessed in the future as development comes on-line to determine actual flows and the need for replacement.

Sewer main extension required to support Stage 4 are required as follows:

- Wellington Rd. 109 West (Wells St to Preston St). This will be a 200mm PVC main.
- Wellington Rd 109 West (FD4-1 to Preston St.). This will be a 200mm PVC main.
- Preston St (Wellington Rd 109 to WWTP). This will be a 200mm Forcemain. Note: SPS required at Wellington Rd. 109/Preston.
- Eliza St (Approximately 680m North of MH95) to support UFD4-2&3. This will be a 300mm PVC main.

5.2.5 Summary of Sanitary Sewer Upgrades, Extensions and Replacements

The following table provides a summary of the expected sanitary system extensions, their service areas, as applicable and the expected costs of their construction. Note, the costs indicated include costs associated with the restoration and upgrade of the surface features, such as road restoration including granular base and asphalt re-instatement. Costs do not include costs associated with construction/replacement of curbs, sidewalks, or installation of storm sewers. Refer to Table 5.2.5 below and Figure 3.2 for a layout of sanitary extensions.

Table 5.2.5 – Sanitary System Upgrades and Extensions

Location	Size (mm)	Length (m)	Served Development Area	Estimated Infrastructure Cost ($)
Stage 1 (2025 – 2031)				
Anderson St (Farell Ln to Draper St)	200	425	R1-2, R1-4	$918,000
Stage 2 (2031 – 2041)				
Wells St E. Extension (Rail Trail to Macaulay St.)	300	460	IL-2	$1,035,000
Macaulay St. Extension (Wells St E.to Eliza St.)	300	630	IL-2	$1,417,500
Stage 3 (2041 – 2051)				
No Sewer extensions or upgrades required.				
Stage 4 (2051+)				
WR 109 East (Wells St E to Preston St)	200	900	FD4-2, FD4-3	$2,016,000
WR 109 West (FD4-1 to Preston St)	200	900	FD4-1, FD4-2	$2,016,000
Preston St Forcemain (WR 109 to MH 27)*	200	310	FD4-2, FD4-3	$502,200
Eliza St Extension (Macaulay St to creek)	300	400	UFD4-1, 4-2	$1,577,600
Frederick St Upgrade (MH 78 – MH 77)	350	21	Upsizing from 300mm to support UFD4-2, UFD4-3	$49,770
SPS at Wellington Rd. 109 and Preston St	N/A	N/A	FD4-1, FD4-2 and FD4-3	$2,200,000
Stage 1 Total				**$918,000**
Stage 2 Total				**$2,452,500**
Stage 3 Total				**$-**
Stage 4 Total				**$8,361,570**
Total (All Stages)				**$11,732,600**

*Additional $50,000 included for directional drilling beneath Conestoga River.

Table 5.2.6 – Sanitary System Replacement Cost

It should be noted that existing sanitary sewers at locations listed below are to be CCTV inspected prior to any road reconstruction to determine if a replacement/reconstruction is required. Should sanitary sewer mains require replacement, the work will be coordinated with watermain upgrades to avoid the need for two separate reconstruction projects.

Location	Size (mm)	Length (m)	Estimated Infrastructure Cost ($)
Edward St	200	260	$598,000
Adelaide St (Clarke to Conestoga St)	200	260	$598,000
Walton St (Clarke to Tucker St)	200	175	$402,500
Clarke Street (Domville to Smith St)	200	480	$1,104,000
Eastview Drive (Eliza to Bellefield Cr)	200	300	$690,000
Bellefield Crescent	200	350	$805,000
Lynwood Pl	200	225	$517,500
Conestoga St (Domville-100m South of Walton)	200	300	$690,000
Total Replacement Cost			**$5,405,000**

Table 5.2.7 – Vertical Sanitary Infrastructure Cost

As discussed within Section 5.1.6, the limiting servicing factor for growth within Arthur will be sewage treatment.

Item	Year	Estimated Cost
Phase 2 Expansion	2031	$13,500,000
Assimilative Capacity Study	2026-2031	$75,000
Municipal Class EA (or Equivalent)	2026-2031	$65,000
Total Cost		**$13,640,000**

6 CONCLUSION

6.1 General

This Water and Sanitary Systems Technical Study is provided to present an overview of the water and sanitary servicing infrastructures' ability to accommodate potential development growth in the village of Arthur. This development growth is based on the expected population growth and development presented in the GMAP (Watson & Associates Economists Ltd., August 16, 2024) while also considering the available lands within the community. Further, this growth was divided into Stages of development based on several criteria including planning approval status, placement within the Urban Boundary, access/proximity to existing services, and expected infrastructure required to service the development.

In addition to the modelling/evaluation of the collection/conveyance systems, the capabilities of key components of the system were assessed for their ability to accommodate the future growth including water supply/storage and sewage treatment.

A summary of the infrastructure servicing upgrades and extensions identified, and the corresponding recommendations to phase/stage the implementation of these infrastructure improvements are provided in the following sections. It is worth noting that the infrastructure improvements and extensions identified in this study are to be considered for inclusion in the next DC updat

6.1.1 Water System

Firm Capacity is a measure of the municipal water system's ability to supply and treat water for consumers. Based on current information, the existing Firm Capacity of the Arthur water system is sufficient to meet the estimated water demands up until approximately 2037 but will begin struggle to meet maximum demands beyond this point.

To address this supply constraint the Township is considering the addition of a new well to the system. Subject to an on-going Class EA and further approvals a new well located at Macaulay St and Well St East is tentatively proposed to provide the additional supply required to meet development needs to 2051.

Water storage within the system is provided for three purposes; fire storage to allow the system to achieve flow rates and volume necessary to effectively fight fires; equalization storage which provides water to the system during peak demand periods; and emergency storage intended to provide a safety factor for water supply. Based on the Ministry of Environment (MOE) guidelines, the existing storage is adequate for the current population and is projected to be adequate for the immediate future if existing facilities continue to be used.

Hydraulic analysis indicates that Stage 1 development, Harvestview (R1-2), will have a low fire flow of 53 L/s fire flow which is generally low for a residential development, however is due to the dead-end within the site. In Stage 2, Sarah Properties (R2-3) can expect a low static pressure of 43 psi when New Tower 1 and the Spheroid operate at the same level, though this is expected to improve with the higher operating levels of New Towers 1 and 2. The Developments within Stage 3 are expected to have sufficient operating pressures. For Stage 4, where FD4-2 and FD4-3 suffer from low fire flows due to their location, a minor trunk main extension west on Wellington Road 109 between Charles St W and Wells St E should improve fire flow conditions at these locations.

Generally, the watermain within the existing system is in good condition, however, there remains a moderate amount of cast iron and thin-walled PVC pipe. This pipe should continue to be replaced as a part of road reconstruction projects as it is reaching the end of its service life.

Given the future expansion of the industrial area outlined in the development scenarios and as explored in Appendix E, it is recommended that trunk watermains be extended to service this area. These trunks would be extended on Wells Street East to Macaulay Street, along Macaulay Street to Eliza Street and on Eliza Street to complete the loop. However, the optimum routing for these trunks and connections to the existing system will depend on the configuration of the developments to a certain extent and should be reviewed in the context of future development proposals. Additional local watermain may be required along the Wellington Road 109 corridor to service future highway commercial areas. Figure 3.1 illustrates recommended watermain extensions to service the future industrial and residential development areas utilizing existing right-of-way

6.1.2 Sanitary System

The existing computer simulation model of the sanitary collection system was reviewed and updated to estimate capacity of the various sewers. Based on this analysis, there is sufficient conveyance capacity under "Existing", Stage 1, 2 and 3 development stages. However, under the Stage 4 Scenario, conveyance capacity on a section of sewer along Frederick St may be exceeded depending on the sewer routing of future development. Specifically, sewers along Francis St and Frederick St will need to be reviewed to ensure that existing sewer capacity can be optimized. Figure 3.2 illustrates recommended sewer extensions to service the future industrial

and residential development areas utilizing existing right-of-way. However, depending of the configuration of the developments, these sewers may be extended internal to the development areas. The optimum sewer configuration should be considered as development proposals are brought forward. The future modelling is based on full occupancy of the lands listed. Therefore, before any road/servicing reconstruction project, it is imperative that the potential future development upstream of the sewers be thoroughly investigated to determine the best servicing strategy for the area and the existing system.

The sanitary reserve capacity was assessed for development Stages 1 to 4, revealing that, despite the planned Phase 2 WWTP capacity upgrade proposed, the WWTP is expected to reach capacity by the year 2038, near the end of Stage 2 development. The limiting factor on increasing reserve capacity is likely to be Conestogo River's inability to assimilate effluent from June to September, due to low flow conditions according to the Assimilative Capacity Study (ACS). According to this study, the Conestogo River serves as the final receiver rather than a conduit to another water body, making year-round discharge difficult to justify unless the WWTP is upgraded to produce an extremely high-quality effluent which would incur a significant economic cost.

Based on the design flows, the recommended servicing strategy and staged Development, the Wells St sewage pumping station, and associated forcemain are adequate to service the future development scenarios considered in this study. Upgrades to the Frederick St SPS will need to be considered in conjunction with potential upgrades beyond Phase 2 WWTP expansion.

6.2 Recommendations

Water

- To meet supply requirements during the later years of Stage 2 a New Well is to be added to the system. It is expected to be near Macaulay/Wells St E intersection.
- The Multi-Leg Tower is to be decommissioned once New Tower 1 is operational. Spheroid Tower is to be operated till the end of Stage 3. Timing for decommissioning of these towers may be influenced by condition of these structures going forward.
- To ensure the Spheroid Tower remains operational through to Stage 3, the following upgrades are recommended as per the latest tower inspection report: comprehensive tank improvements, removal and replacement of both exterior coatings and interior linings, application of maintenance coatings to the dry riser, and various ancillary works including site restoration.
- New Tower 1 will be operated initially using the same high level as the Spheroid Tower to avoid dual-zone requirements. Once the Spheroid is retired, excepted sometime at the end of Stage 3, the New Tower 1 operating level can be increased to the design high level which is expected to be provide increase of 3m from existing level.
- New Tower 2 will be required to accommodate Stage 4 and beyond operating at the same operating level as New Tower 1.
- To service developments throughout the various Stages it is recommended the watermain be extended along the following Roads/Streets: Draper St, Anderson St, Wells St E, Macaulay St, Eliza St. and Wellington Rd. 109
- Thin-walled PVC and cast-iron pipe in the system are approaching the end of their service life and should be replaced during road reconstructions wherever applicable.

Sanitary

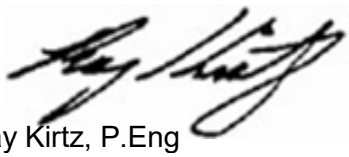
- The current capacity of the WWTP will accommodate Stage 1 development with some capacity remaining to accommodate a small portion of Stage 2. Therefore, Phase 2 expansion of the WWTP will need to be implemented within the next 5 years to ensure WWTP capacity does not limit Stage 2 development.
- Phase 2 expansion of the WWTP is expected to reach capacity sometime in the later years of Stage 2. Therefore, wastewater treatment capacity beyond Phase 2 capacity (Phase 3) will be required to accommodate long-term development. It is recommended that the appropriate regulatory process (i.e., Municipal Class EA) be initiated within the next 5 years given the lengthy approval timelines. To support this assessment, it is recommended that an updated ACS study of the Conestogo River be completed to determine the potential capacity of this receiver and probable effluent criteria. This information will be crucial in determining the treatment options.
- To service developments throughout the various Stages it is recommended that sanitary sewers are extended along the following Roads/Streets as indicated in Figure 3.2 including Wells St E, Macaulay St, Preston St (forcemain), Eliza St. and Wellington Rd. 109.
- Existing asbestos cement sewers at locations listed in Table 5.2.5 are to be CCTV inspected prior to any road reconstruction to determine if a replacement/repair is required.
- Sewer identified as >100% capacity should be reviewed/monitored in detail prior to road reconstruction to confirm existing flows, this will allow a better assessment of the sewers' ability to accommodate future flows. Based on this, a decision regarding replacement or upgrading of this sewer can be made prior to the road reconstruction.

6.3 Closing

Triton Engineering is pleased to provide this update to the Arthur Water and Sanitary Systems Technical Study to reflect revised future development considerations and infrastructure upgrades/extensions for the Townships future planning. This report is respectfully submitted.

TRITON ENGINEERING SERVICES LIMITED

Dustin Lyttle, P.Eng



Ray Kirtz, P.Eng

Ryan Paiva, E.I.T

Figures

TOWNSHIP OF WELLINGTON NORTH

ARTHUR TECHNICAL UPDATE

LEGEND:

- CENTRAL BUSINESS DISTRICT
- FUTURE RESIDENTIAL DEVELOPMENTS
- ARTHUR BOUNDARY
- INTENSIFICATION CORRIDOR
- RESIDENTIAL ALLOCATION BOUNDARY**
- R1-2 1.7 ha — DEVELOPMENT ID ESTIMATED DEVELOPABLE LAND

** SERVICING HAS BEEN INSTALLED*
*** AS PER COUNCIL RESOLUTION 2025-143 (MAY 5, 2025)*

FIGURE 2.2

STAGE 1 (2025 - 2031) DEVELOPMENT SCENARIO

SCALE 1:12,500
OCTOBER 2025
A5514

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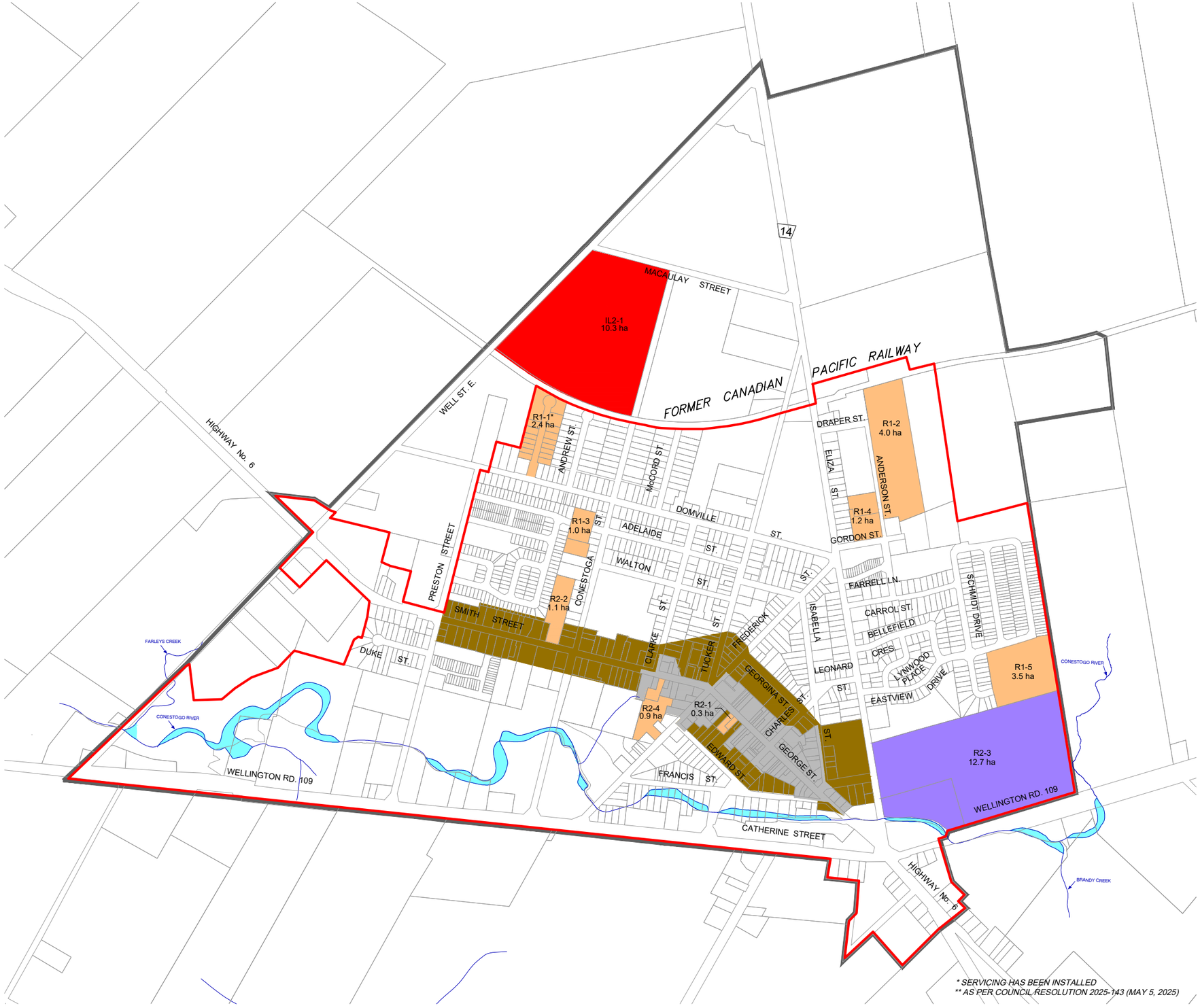
Fergus, Ontario

TOWNSHIP OF WELLINGTON NORTH

ARTHUR TECHNICAL UPDATE



LEGEND:

- CENTRAL BUSINESS DISTRICT
- FUTURE RESIDENTIAL DEVELOPMENTS
- ARTHUR BOUNDARY
- INTENSIFICATION CORRIDOR
- COMMERCIAL/MIXED USE
- INDUSTRIAL
- RESIDENTIAL ALLOCATION BOUNDARY**
- R1-2 1.7 ha — DEVELOPMENT ID ESTIMATED DEVELOPABLE LAND

** SERVICING HAS BEEN INSTALLED*
*** AS PER COUNCIL RESOLUTION 2025-143 (MAY 5, 2025)*

FIGURE 2.3

STAGE 2 (2031 - 2041) DEVELOPMENT SCENARIO

SCALE 1:12,500
OCTOBER 2025
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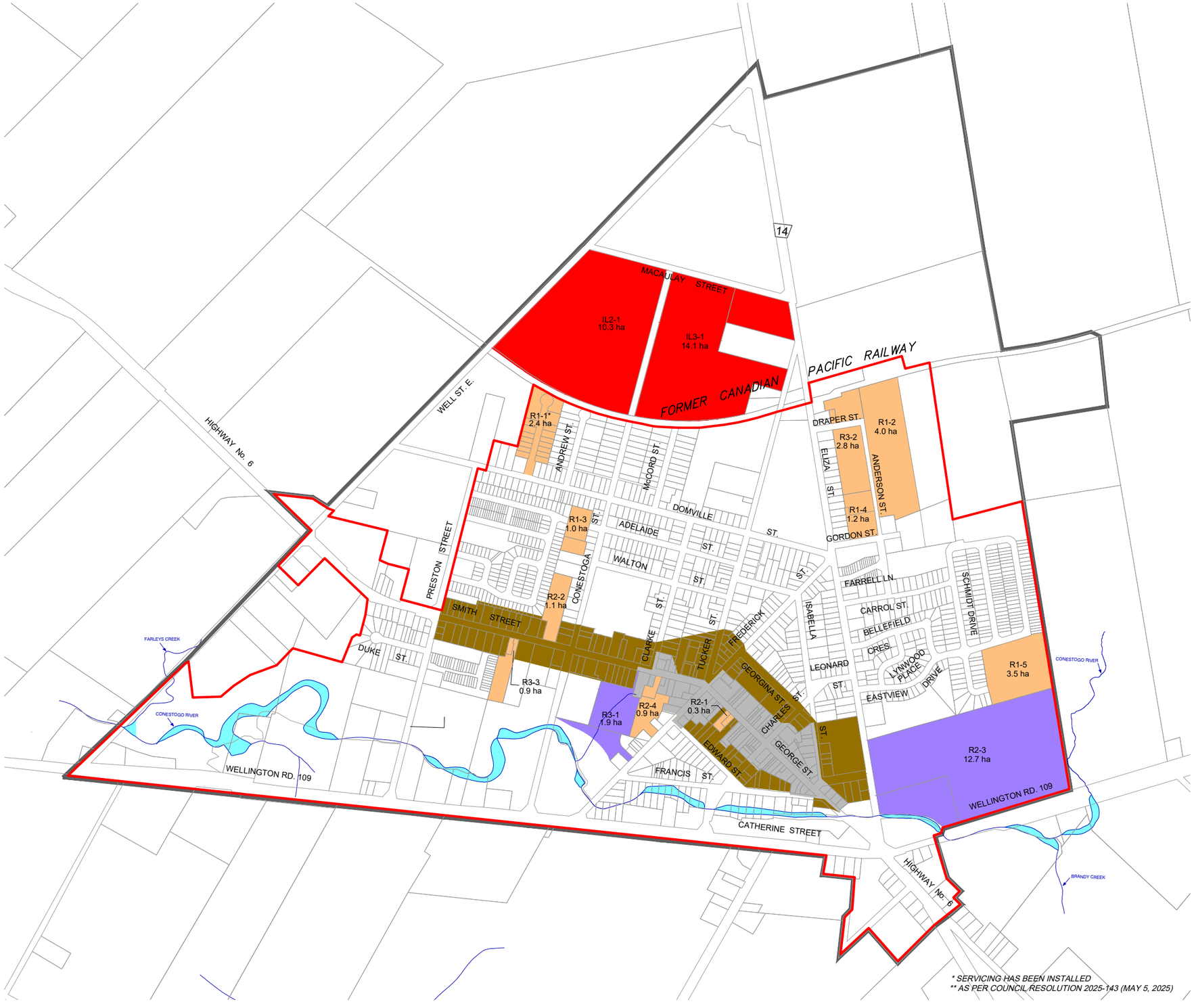
ARTHUR TECHNICAL UPDATE



LEGEND:

- CENTRAL BUSINESS DISTRICT
- FUTURE RESIDENTIAL DEVELOPMENTS
- ARTHUR BOUNDARY
- INTENSIFICATION CORRIDOR
- COMMERCIAL/MIXED USE
- INDUSTRIAL
- RESIDENTIAL ALLOCATION BOUNDARY**
- R1-2 / 1.7 ha — DEVELOPMENT ID / ESTIMATED DEVELOPABLE LAND

** SERVICING HAS BEEN INSTALLED*
*** AS PER COUNCIL RESOLUTION 2025-143 (MAY 5, 2025)*

FIGURE 2.4

STAGE 3 (2041 - 2051) DEVELOPMENT SCENARIO

SCALE 1:12,500
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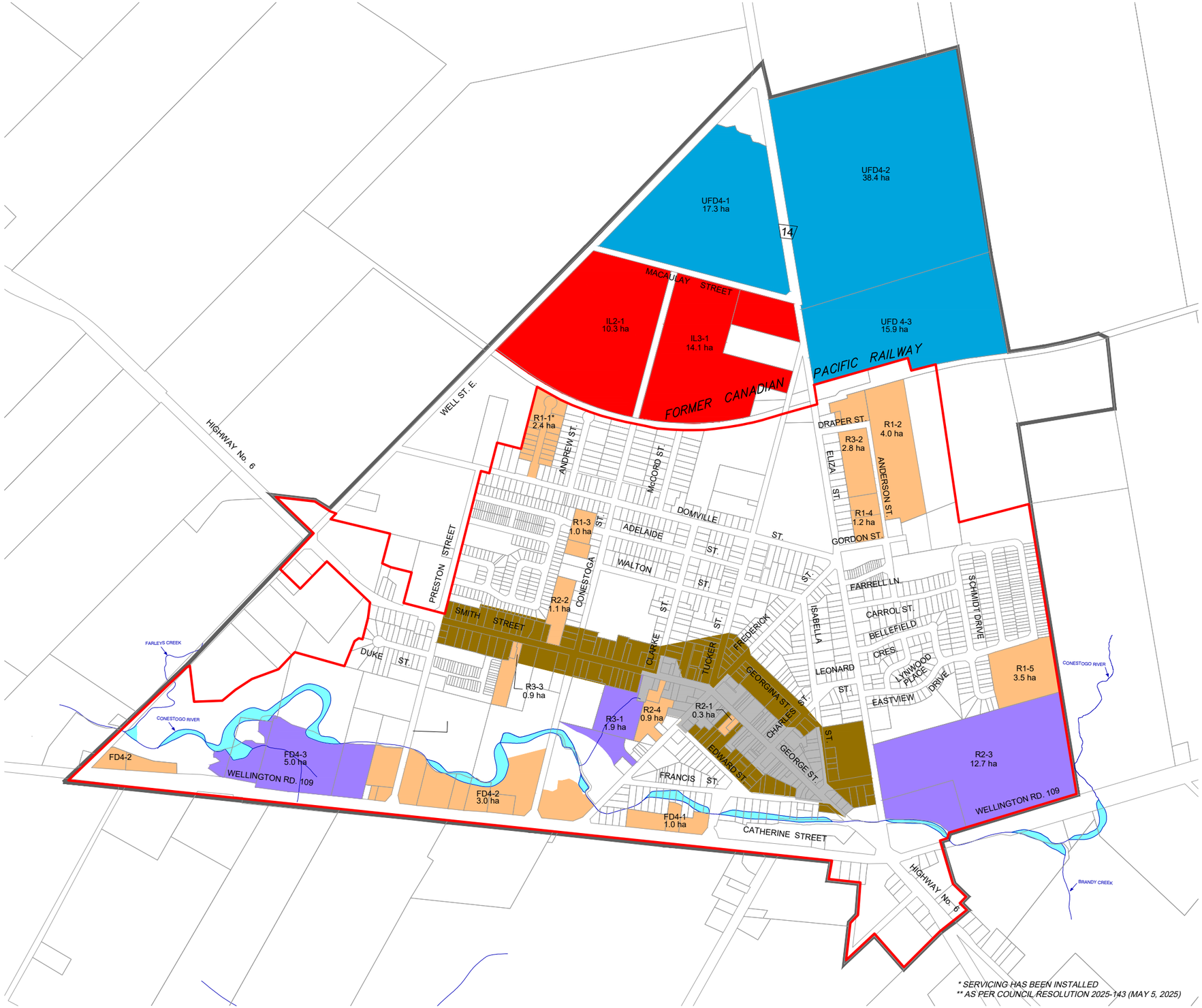

** SERVICING HAS BEEN INSTALLED*
*** AS PER COUNCIL RESOLUTION 2025-143 (MAY 5, 2025)*

LEGEND:

- CENTRAL BUSINESS DISTRICT
- FUTURE RESIDENTIAL DEVELOPMENTS
- ARTHUR BOUNDARY
- INTENSIFICATION CORRIDOR
- COMMERCIAL/MIXED USE
- INDUSTRIAL
- UNDETERMINED FUTURE DEVELOPMENT
- RESIDENTIAL ALLOCATION BOUNDARY**
- R1-2 / 1.7 ha — DEVELOPMENT ID / ESTIMATED DEVELOPABLE LAND

FIGURE 2.5

STAGE 4 (2051+) DEVELOPMENT SCENARIO

SCALE 1:12,500
OCTOBER 2025
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ARTHUR TECHNICAL UPDATE

LEGEND:

- 150mm WATERMAIN REPLACEMENT
- 150mm WATERMAIN EXTENSION
- 250mm WATERMAIN EXTENSION
- 300mm WATERMAIN EXTENSION
- RESIDENTIAL ALLOCATION BOUNDARY**
- ARTHUR BOUNDARY
- FUTURE DEVELOPMENTS
- R1-2 / 1.7 ha — DEVELOPMENT ID / ESTIMATED DEVELOPABLE LAND
- NEW TOWER 1
- NEW WELL

** SERVICING HAS BEEN INSTALLED*
*** AS PER COUNCIL RESOLUTION 2025-143 (MAY 5, 2025)*

FIGURE 3.1

STAGE 1 - STAGE 4 WATERMAIN UPGRADES

SCALE 1:12,500
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ARTHUR TECHNICAL UPDATE

LEGEND:

- 200mm SANITARY EXTENSION
- 200mm SANITARY FORCEMAIN
- 300mm SANITARY EXTENSION
- 350mm SANITARY UPSIZE
- RESIDENTIAL ALLOCATION BOUNDARY**
- ARTHUR BOUNDARY
- FUTURE DEVELOPMENTS
- R1-2 / 1.7 ha — DEVELOPMENT ID / ESTIMATED DEVELOPABLE LAND
- FUTURE SPS

** SERVICING HAS BEEN INSTALLED*
*** AS PER COUNCIL RESOLUTION 2025-143 (MAY 5, 2025)*

FIGURE 3.2

STAGE 1 - STAGE 4 SANITARY UPGRADES

SCALE 1:12,500
OCTOBER 2025
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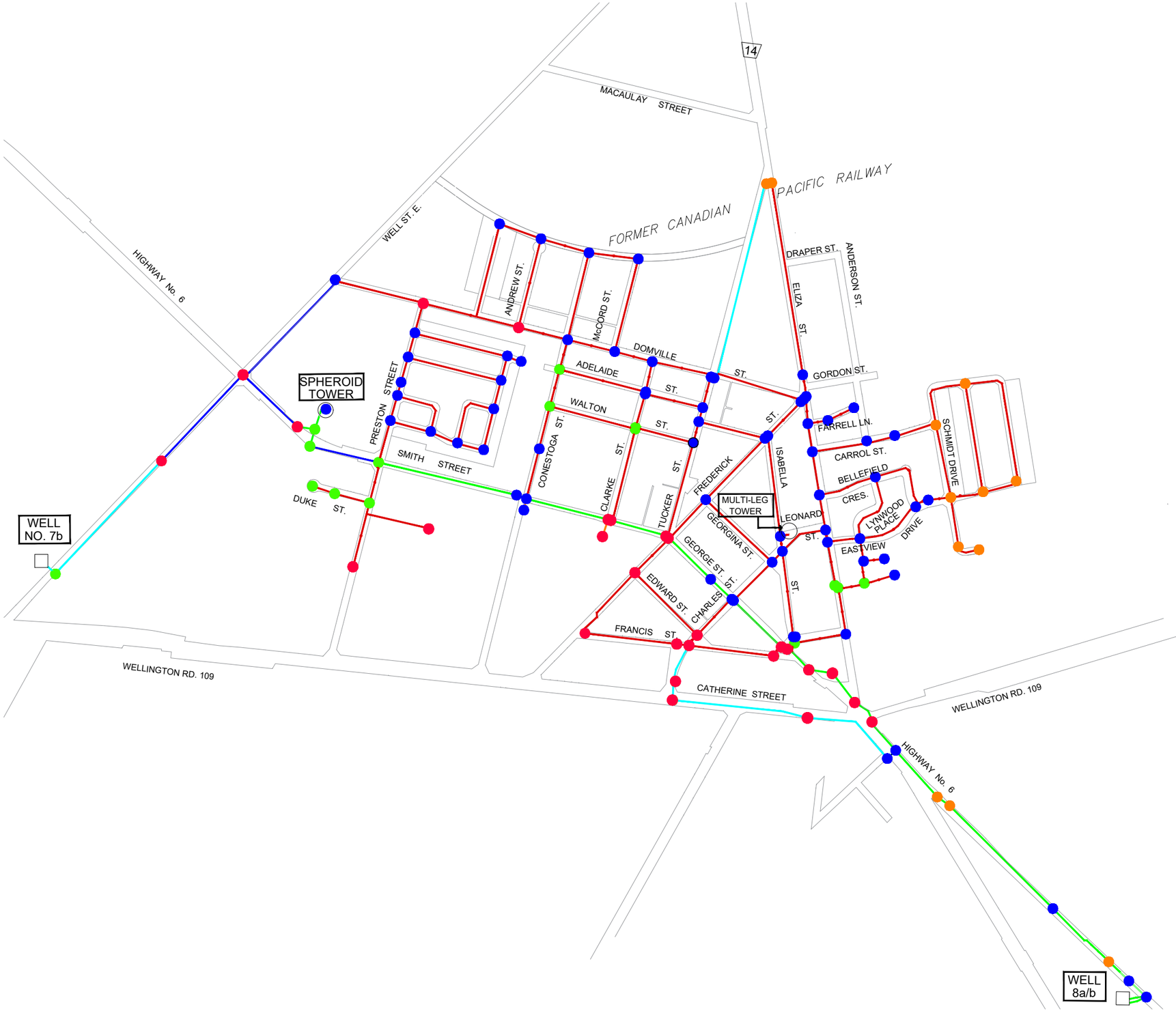
ARTHUR TECHNICAL UPDATE



WATERMAIN SIZING:

- ≤100mm
- 150mm
- 200mm
- 250mm
- 300mm

JUNCTION PRESSURE RANGES

- 40 - 50 psi
- 50 - 60 psi
- 60 -70 psi
- 70 - 80 psi

FIGURE 4.1

EXISTING WATER SYSTEM WATERMAIN SIZE & SYSTEM PRESSURE

SCALE 1:10,000
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ARTHUR TECHNICAL UPDATE

FUTURE DEVELOPMENT BOUNDARY

WATERMAIN SIZING:

- ≤100mm
- 150mm
- 200mm
- 250mm
- 300mm

JUNCTION PRESSURE RANGES

- 40 - 50 psi
- 50 - 60 psi
- 60 -70 psi
- 70 - 80 psi

FIGURE 4.2

WATER SYSTEM WATERMAIN SIZE & SYSTEM PRESSURE STAGE 1 - STAGE 4

SCALE 1:10,000
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* LOCATION NOT YET FINAL

TOWNSHIP OF WELLINGTON NORTH

ARTHUR TECHNICAL UPDATE

WATERMAIN MATERIAL

- PVC
- CAST IRON
- DUCTILE IRON
- THIN WALL PVC

JUNCTION FIRE FLOW RANGE

- 50 - 70 L/s
- 70 - 80 L/s
- 80 - 103 L/s
- 103 - 200 L/s
- 200 - 350 L/s

FIGURE 4.3

EXISTING WATER SYSTEM WATERMAIN MATERIAL & FIRE FLOW CAPABILITIES

SCALE 1:10,000
OCTOBER 2025
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TOWNSHIP OF WELLINGTON NORTH

ARTHUR TECHNICAL UPDATE

FUTURE DEVELOPMENT BOUNDARY

WATERMAIN MATERIAL	JUNCTION FIRE FLOW RANGE
PVC	0 - 50 L/s
CAST IRON	50 - 70 L/s
DUCTILE IRON	70 - 80 L/s
THIN WALL PVC	80 - 103 L/s
	103 - 200 L/s
	200 - 350 L/s

FIGURE 4.4

WATER SYSTEM WATERMAIN MATERIAL & FIRE FLOW CAPABILITIES STAGE 1 - STAGE 4

SCALE 1:10,000
OCTOBER 2025
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ARTHUR TECHNICAL UPDATE

SEWER SIZING:

- 200mm
- 300mm
- 375mm
- 450mm
- FORCEMAINS
- LAGOON OVERFLOW

FIGURE 5.2

EXISTING SANITARY SYSTEM SEWER SIZE

SCALE 1:10,000
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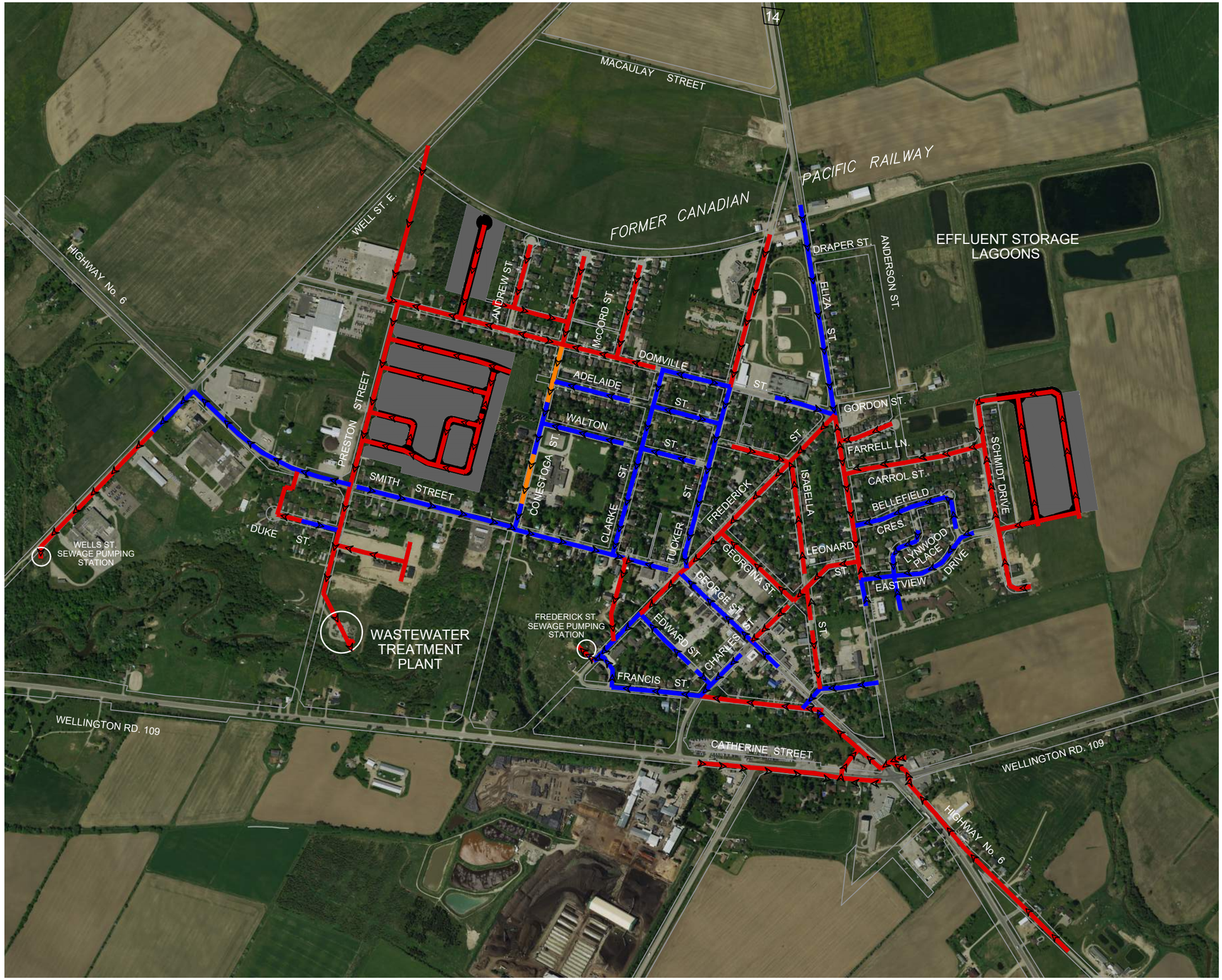

LEGEND:

- CONCRETE
- PVC
- ASBESTOS CEMENT

FIGURE 5.3

EXISTING SANITARY SEWER MATERIAL

SCALE 1:10,000
OCTOBER 2025
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TOWNSHIP OF WELLINGTON NORTH

ARTHUR TECHNICAL UPDATE

PEAK FLOW / CAPACITY (%)

- ≤50%
- ≤75%
- ≤100%
- ≥100%

FIGURE 5.4

PEAK SEWAGE FLOWS (EXISTING CONDITIONS)

SCALE 1:10,000
OCTOBER 2025
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ARTHUR TECHNICAL UPDATE

PEAK FLOW / CAPACITY (%)

- ≤50%
- ≤75%
- ≤100%
- ≥100%
- FUTURE SEWER EXTENSIONS
- R1-5 DEVELOPMENT ID
- FUTURE SANITARY CONTRIBUTIONS
- FUTURE DEVELOPMENT BOUNDARY

FIGURE 5.5

PEAK SEWAGE FLOWS (STAGE 1)

SCALE 1:10,000
OCTOBER 2025
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ARTHUR TECHNICAL UPDATE

PEAK FLOW / CAPACITY (%)

- ≤50%
- ≤75%
- ≤100%
- ≥100%
- FUTURE SEWER EXTENSIONS
- R1-5 DEVELOPMENT ID
- FUTURE SANITARY CONTRIBUTIONS
- FUTURE DEVELOPMENT BOUNDARY

FIGURE 5.6

PEAK SEWAGE FLOWS (STAGE 2)

SCALE 1:10,000
OCTOBER 2025
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ARTHUR TECHNICAL UPDATE

PEAK FLOW / CAPACITY (%)

- ≤50%
- ≤75%
- ≤100%
- ≥100%
- FUTURE SEWER EXTENSIONS
- R1-5 DEVELOPMENT ID
- FUTURE SANITARY CONTRIBUTIONS
- FUTURE DEVELOPMENT BOUNDARY

FIGURE 5.7

PEAK SEWAGE FLOWS (STAGE 3)

SCALE 1:10,000
OCTOBER 2025
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TOWNSHIP OF WELLINGTON NORTH

ARTHUR TECHNICAL UPDATE

PEAK FLOW / CAPACITY (%)

- <50%
- ≤75%
- ≤100%
- ≥100%
- FUTURE SEWER EXTENSIONS
- FUTURE FORCEMAIN EXTENSION
- R1-5 DEVELOPMENT ID
- FUTURE SANITARY CONTRIBUTIONS
- FUTURE DEVELOPMENT BOUNDARY

FIGURE 5.8

PEAK SEWAGE FLOWS (STAGE 4)

SCALE 1:10,000
OCTOBER 2025
A5514

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Consulting Engineers
Fergus, Ontario

Appendix A

Growth Management Action Plan

Township of Wellington North

Report

August 16, 2024

Watson & Associates Economists Ltd.
905-272-3600
info@watsonecon.ca

In association with: WSP Canada Inc.

Table of Contents

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List of Acronyms and Abbreviations

A.R.U.	Additional Residential Unit
B.U.A.	built-up area
D.C.	Development Charges
D.G.A.	designated greenfield area
F.I.R.	Financial Information Return
G.F.A.	gross floor area
M.D.D.	Maximum Day Demand
M.C.R.	Municipal Comprehensive Review
O.P.	Official Plan
O.P.A.	Official Plan Amendment
O.P.R.	Official Plan Review
P.P.S., 2020	Provincial Policy Statement, 2020
P.P.S., 2024	Provincial Planning Statement, 2024
R.C.C.	Reserve Capacity Calculation
S.M.E.	Small and medium-sized enterprises
S.P.S.	Sewage Pumping Station
W.W.T.P.	Wastewater Treatment Plant

Glossary

Additional Residential Unit (A.R.U.): as defined by the *Planning Act*, refers to a second and a third residential unit in addition to a primary residential unit on a residential lot containing a single detached housing unit, semi-detached housing unit, or townhouse unit. A.R.U.s are also referred to as second units, secondary suites, accessory dwelling units, basement apartments, coach houses, laneway houses, garden suites, tiny homes, granny flats, in-law apartments, or nanny suites.

Affordable Housing: is defined in the Provincial Policy Statement (P.P.S.), 2020 as:

"a) in the case of ownership housing, the least expensive of:

1. housing for which the purchase price results in annual accommodation costs which do not exceed 30 percent of gross annual household income for low and moderate income households; or

2. housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the regional market area;

b) in the case of rental housing, the least expensive of:

1. a unit for which the rent does not exceed 30 percent of gross annual household income for low and moderate income households; or

2. a unit for which the rent is at or below the average market rent of a unit in the regional market area."[1]

Attainable Housing: is a relatively new concept that has not yet been defined by the Province in any provincial planning documents. Generally, refers to housing that is adequate in condition (no major repairs needed), appropriate in size (bedrooms

[2] Provincial Policy Statement, 2020, definitions, p. 39.

appropriate for the household), reasonably priced (for lower and moderate income households) and available (a range of housing options).[1]

Built-up Area (B.U.A.): refers to the area delineated by the Province in 2006 reflecting the lands that were built upon. This area is where intensification, including redevelopment and infill, is expected to occur. The Township's intensification rate is applied to the B.U.A.; any housing development within this area is considered intensification, regardless of housing structure type.

Climate Change Mitigation: refers to reducing and avoiding emissions of greenhouse gases into the atmosphere to limit the magnitude of future climate impacts.

Climate Change Resilience: refers to effectively adapting with and managing the impacts of climate change while preventing those impacts from getting worse. A climate resilient Township plans from a climate change lens and is equipped to deal with the realities of an increasingly warmer world.

Community Area: refers to the area within the Township's urban area that is planned to accommodate housing and most of the population-related employment. This area also includes the Township's parkland and recreational lands. Community Areas are further divided based on two geographic areas: designated greenfield areas (D.G.A.) and the built-up area (B.U.A.).

Community Area Land Needs Assessment: is a calculation to determine the amount of urban land required to meet the future needs of the Township's residential, commercial, and institutional land requirements. Prior to a land needs assessment, a housing intensification analysis is carried out to determine the growth that can be accommodated within the Township's B.U.A. Housing growth not anticipated to be accommodated through intensification is inputted into the land needs assessment.

Complete Communities: is where communities meet the needs of residents for daily living throughout an entire lifetime by providing an appropriate mix of jobs, local services, a full range of housing, and community infrastructure, including affordable housing, schools, recreation, and open space for their residents. A key objective of complete communities is to ensure that residents are offered a range of transportation options to accommodate the daily needs of residents. Providing diverse transportation options makes communities more inclusive by accommodating the mobility of people of all ages, abilities, and income levels.

[2] Rural Ontario Municipal Association (ROMA), ROMA Task Force on Attainable Housing and Purpose-Built Rentals, Proposals for Specific Actions: Policy, Legislative and Regulations Project Development and Financial Incentives, August 2022.

Glossary (Cont'd)

Complete Streets: are streets that are safe for all users, regardless of age, ability, income, race, ethnicity, or mode of travel. By using a Complete Streets approach to designing road networks, we can create spaces that allow all users to thrive — not only motorists.[1]

Designated Greenfield Area (D.G.A.): refers to newly established, developing, and vacant lands that are designated for residential and other Community Area uses that are generally on the periphery of the Township's urban centres of Arthur and Mount Forest. The D.G.A. has accommodated most of the Township's new at-grade housing over the past decade.

Employment Areas: refers to lands designated for industrial-type development. These lands are protected from sensitive uses such as residential, large-scale institutional uses (e.g., hospitals, nursing homes, and schools), and major retail uses due to land use compatibility issues and the traffic these sensitive uses generate.

Gross Developable Land Area: refers to lands that can be built on for the development of housing, commercial, and institutional uses, as well as infrastructure uses (stormwater ponds, parks/trails and roads). Gross developable land area excludes environmental features and other lands that cannot be built on.

Growth Management: refers to strategically planning the when and where of growth, considering both current and anticipated urban needs and the broader needs of the Township.

Future Development Lands: is a designation in the County of Wellington's Official Plan that have been placed into a holding category in the Official Plan to limit development until a need is demonstrated. These lands currently have no use identified in the County's Official Plan and are identified in white on the County's Official Plan land use schedules. Section 8.10 of the County's Official Plan provides policies on the Future Development lands, including guidelines on redesignation. The Township of Wellington North has Future Development lands in Arthur and Mount Forest.

Intensification Rate: refers to the percentage of the Township's historical and forecast housing growth accommodated within the B.U.A. The intensification rate is measured based on geographic area and a target was set by the County of Wellington in accordance with provincial policy direction. The Township of Wellington North is required to plan for a minimum of 20% of housing unit growth in the Township to be accommodated within the B.U.A. by 2051.

[1] Complete Streets of Canada website – https://completestreetsforcanada.ca/what-are-complete-streets/, retrieved July 24, 2024.

Missing Middle Housing: refers to the range of housing types between traditional single detached houses and high-rise apartments that have gone "missing" from many large cities in Ontario. Missing middle housing is typically defined to include a range of house-scale buildings with multiple units – compatible in scale and form with detached single-family homes – located in a walkable neighbourhood.

Net Residential Land Area: refers to the portion of the developable land area to accommodate lots for housing, exclusive of all other land uses, such as roads, stormwater ponds, parks/trails, and commercial and institutional sites.

People and Jobs per Hectare: an estimate of the population and jobs divided by the gross developable land area. This is a key growth management target established by the County in accordance with provincial policy. The minimum people and jobs per hectare in the Township of Wellington is 32 people and jobs per hectare in the D.G.A.

Population-Related Employment: employment within the Community Areas that supports the population base, including retail, office, and institutional uses. These uses are generally found within the Township of Wellington North's commercial areas and the various institutional sites in the Township (e.g., schools, daycares, nursing homes, public service facilities, hospitals, and government facilities).

Rural Area: refers to lands outside the Urban Centres of Arthur and Mount Forest which includes prime agricultural lands, rural lands, rural settlement areas (hamlets), mineral aggregate resources, rural commercial, and rural Employment Areas.

Urban Area: refers to municipally serviced (water/wastewater) lands within the Urban Centres of Arthur and Mount Forest. In accordance with provincial planning policies, the Township's Urban Area will accommodate most of the Township's growth, with a limited amount of growth allocated to the Rural Area. This approach prioritizes the protection of the Township's prime agricultural lands, while providing some growth opportunities to contribute to the rural economy.

Executive Summary

Executive Summary

Introduction

In December 2023, the Township of Wellington North retained Watson & Associates Economists Ltd., in association with WSP Canada Inc. (hereinafter referred to as "the Consultant Team") to prepare a Township of Wellington North Growth Management Action Plan. The Consultant Team comprises a multi-disciplinary team working together to provide a study that addresses and integrates a wide range of considerations in planning for growth and development within Wellington North, including the long-term population and employment trends, urban land needs, hard and soft infrastructure requirements, financial impacts of development on the Township, and strategic planning policy direction.

Growth management is a set of techniques to strategically plan the when and where of growth, considering both current and anticipated urban needs. The goal is to advance sustainable growth patterns by optimizing the utilization of land, resources, and infrastructure, while also managing other key priorities. Additional priorities often encompass building complete communities, addressing climate resiliency, preserving the character of communities, and safeguarding natural heritage.

The Township of Wellington North Growth Management Action Plan will be designed to serve as a guiding document that broadly addresses the future impacts of growth related to municipal service delivery, infrastructure requirements, urban land needs and land use planning policy, economic development, and financial sustainability as the Township evolves.

Key objectives of the Growth Management Action Plan include the following:

- Develop a long-term vision for growth and development for the Township to guide local growth management decision-making;
- Describe the type of growth the community wants and where that growth should occur;
- Implement the County's growth forecasts and policy directions through a local lens;
- Prepare a high-level assessment of the growth impacts from a services/ infrastructure perspective; and

- Suggest areas where the Township may need to explore a further review and study.

A key difference between the previous growth management study, the Township of Wellington North Growth Plan, 2018, and this study is that this analysis will not conduct and evaluate growth scenarios for the Township's Urban Centres. This study, the Growth Management Action Plan, will instead focus on building upon the County's growth management work, developing a local vision for growth, and providing direction on local implementation. Through engagement with public stakeholders, this study will identify a series of preferred growth principles and priorities for the Township.

Study Process

Over the duration of the study, the Consultant Team had active engagement with the Steering Committee which included members of the Township's staff and personnel from the County of Wellington. The Steering Committee provided a review of planning, infrastructure, and municipal finance information prepared for the Growth Management Action Plan.

The Growth Management Action Plan was carried out with the engagement of an Advisory Committee of 18 members. The Advisory Committee includes Township councillors, community leaders, and a number of residents, including those who are business owners and members of community groups. Five workshop meetings were held with the Advisory Committee throughout the project. Furthermore, report presentation packages were provided to the Advisory Committee for review and comment. The Advisory Committee provided valuable insights and supported the development of the Township's vision and guiding principles for growth.

In the early stages of the project, a public online survey was posted on the Township's website and promoted on social media to gather input from the broader community on growth-related topics. The Consultant Team reviewed the 42 surveys submitted. The information from the surveys supplemented the on-going feedback from the Advisory Committee which was used to inform this Growth Management Action Plan.

The Growth Management Action Plan was prepared under five phases of work as illustrated in Figure ES-1.

Figure ES-1
Growth Management Action Plan
Study Components

Deliverables

The Background Report[1] is the first component of the Growth Management Action Plan. It provides important context for the Growth Management Action Plan, and discusses the implications of trends, growth projections, demographic shifts, and other factors influencing development patterns and how the Township is to plan for growth. Designed as a resource for discussions, this document provides background information and explores key themes related to residential and non-residential development trends that require long-term growth management considerations.

This report, the Growth Management Action Plan, summarizes the Township's growth forecast, vision for growth, growth principles, and priorities. The report also includes a high-level assessment of the growth impact on municipal finance and operations, as well as hard servicing requirements (e.g., roads and water and wastewater servicing).

[1] Township of Wellington North Growth Management Action Plan Background Report prepared by Watson & Associates Economists Ltd. and WSP Canada Inc., March 2024.

Furthermore, it includes recommendations and direction on local growth implementation.

Policy Context

The Growth Management Action Plan must conform with provincial and County planning policies. The County of Wellington, as an upper-tier municipality, has a responsibility to set growth management parameters for the member municipalities within the County, including growth forecasts and allocations, and minimum targets for density and intensification. In updating the County of Wellington Official Plan, the County recently undertook a Municipal Comprehensive Review (M.C.R.). That document provides further details on planning for growth across the County, including growth forecasts by member municipality, Urban Centre growth allocations, and an urban land needs assessment to the year 2051.

The Township of Wellington North, as with other lower-tier municipalities in Ontario, holds responsibility for managing growth through a range of tasks, including:

- zoning by-law;
- development approvals;
- infrastructure planning;
- phasing of growth;
- municipal finance;
- exploring initiatives for greenhouse gas reduction;
- accommodating a range of housing options;
- business retention and expansion; and
- collaboration in County planning.

Growth Vision and Guiding Principles

A key component of the Growth Management Action Plan is developing growth vision and guiding principles for planning for growth within the Township of Wellington North. The growth vision and guiding principles were developed through workshops with the Advisory Committee, consultation with Township and County staff, and a public survey. Additionally, the growth vision and guiding principles build upon the previous Township of Wellington North Growth Plan, 2018 and the recently completed Township of Wellington North Strategic Plan, 2024. It is important to note that the growth vision and

guiding principles were developed based on the provincial and County planning framework and represent key planning policy direction from the Province and the County of Wellington.

The growth vision and guiding principles are intended to describe the overall community planning and growth management direction for Wellington North. Furthermore, the growth vision and guiding principles are also intended to provide a consistent, long-term framework through which future planning decisions and investments are considered and evaluated towards a desired common outcome for the Township.

Provided below is the growth vision statement:

> **Wellington North is a place for everyone, supported by a high quality of life and sustainable growth for current and future generations.**

The 10 guiding principles for planning for growth are as follows:

1. Together as One: Wellington North
2. Championing Environmental Stewardship and Protecting Resources for Future Generations
3. Supporting Responsible and Sustainable Growth and Infrastructure
4. Embracing Creative and Innovative Solutions
5. Engaging Residents, Businesses, and Community Groups
6. Preserving the Character and Vibrancy of Our Communities and Countryside
7. Nurturing a Diverse and Adaptable Local Economy and Employment Base
8. Providing Diverse and Affordable Options for Housing
9. Enhancing Mobility and Connectivity within the Township and Beyond
10. Ensuring the Safety and Wellbeing of Residents

Growth Forecast

The Township is anticipated to reach a population of 20,500 and an employment base of 10,500 jobs by 2051. As a result, over the 2024 to 2051 period, the Township is anticipated to add 6,700 residents and 2,900 jobs.

As of mid-2024, Mount Forest is estimated to have a population base of 5,800, while Arthur is estimated to have a population base of 3,300. Mount Forest and Arthur are both anticipated to experience robust population growth, increasing at an annual rate of 2.2% and 1.4%, respectively, to 2051. The Rural Area has a population of 4,700 as of mid-2024. Over the 2024 to 2051 period, Mount Forest is forecast to add 4,700 residents and 1,620 households, while Arthur is anticipated to add 1,500 residents and 600 households. The Rural Area is expected to add 500 residents and 170 households over the same period.

Mount Forest is anticipated to accommodate 64% of the Township's employment growth, while Arthur is anticipated to accommodate 30% of the Township's employment growth. Both Urban Centres are anticipated to benefit from building upon the existing employment base and population-related employment opportunities such as commercial and institutional uses. The Rural Area is anticipated to add a slight increase to the employment base.

Key Growth Targets

Figure ES-2 provides a summary of the growth targets to be considered in planning for growth in the Township of Wellington North. These targets are considered minimums and are deemed appropriate based on a review of the market, growth drivers, and the consideration of long-term changes in the demographic base. Over the planning horizon, the Township in partnership with the County of Wellington should continue to monitor the growth targets summarized in Figure ES-2. Other factors in monitoring growth should be explored, including the range of non-residential uses (e.g., commercial, industrial, and institutional) and housing options (e.g., housing by tenure and structure type).

Figure ES-2
Township of Wellington North
Growth Targets

Growth Targets	Target
Township Population by 2051	**20,500**
Township Employment by 2051	**10,500**
Minimum Intensification Rate – Share of Housing Growth in the Built-up Area	**20%**
Minimum Density in Greenfield Areas	**32 people and jobs/hectare**

Source: Derived from the County of Wellington, Phase 2 M.C.R. Report: Urban Land Needs Assessment prepared by Watson & Associates Economists Ltd., 2022.

Does the Township have Enough Land to Accommodate Population and Housing Growth?

The County's M.C.R. identified that Mount Forest and Arthur have sufficient land available within the Urban Centre boundary to accommodate population growth to 2051. While the Township does not require additional lands outside the Urban Centres boundary to accommodate growth, it does require approximately 81 gross hectares (200 gross acres) of Future Development lands to be redesignated for Community Area uses. This is anticipated to accommodate just over 600 housing units, as well as parkland, local roads, and commercial/institutional uses. The County of Wellington M.C.R. identified that there is a need for additional designated commercial lands within Arthur and a minimum of 2 hectares (5 acres) would be required to 2051. It was recommended that additional lands beyond the 2 hectares (5 acres) be considered for commercial uses to ensure a market choice of designated commercial lands. The commercial land requirement is included in the 81 hectares (200 acres) of Future Development land required to be redesignated for Community Area uses. A summary of the amount of Future Development lands to be redesignated for Community Area uses (e.g., residential, commercial, and institutional) by Urban Centre is summarized in Figure ES-3.

Figure ES-3
Township of Wellington North
Future Development Lands to be Redesignated
to Community Area Uses by 2051

Urban Centre	Land Area, hectare
Arthur	27
Mount Forest	54
Total	**81**

Source: Derived from the County of Wellington, Phase 2 M.C.R. Report: Urban Land Needs Assessment prepared by Watson & Associates Economists Ltd., 2022.

Does the Township have Enough Land to Accommodate Employment Area Growth?

In accordance with the County's M.C.R. report, it was identified that there is a 70-hectare (173 acres) surplus of Employment Area lands to 2051.[1] While there is a surplus of Employment Area lands in the Township, it is important to recognize that a large portion of the vacant Employment Area land supply is not currently available for development or is not suitable for immediate use due to servicing and the current use of the sites. For example, a large portion of the Employment Area land supply in Mount Forest is used for agricultural purposes and the land is not currently marketed for industrial purposes. Over the long term, these lands may become available; however, in the short term, the Township has a limited supply of serviced Employment Area lands ready for industrial development. Moreover, it is important to note that the surplus of Employment Area lands is within Mount Forest, as Arthur would require all of its 30 hectares (74 acres) of vacant Employment Area lands for employment growth to 2051.

Accommodating Additional Designated Urban Lands

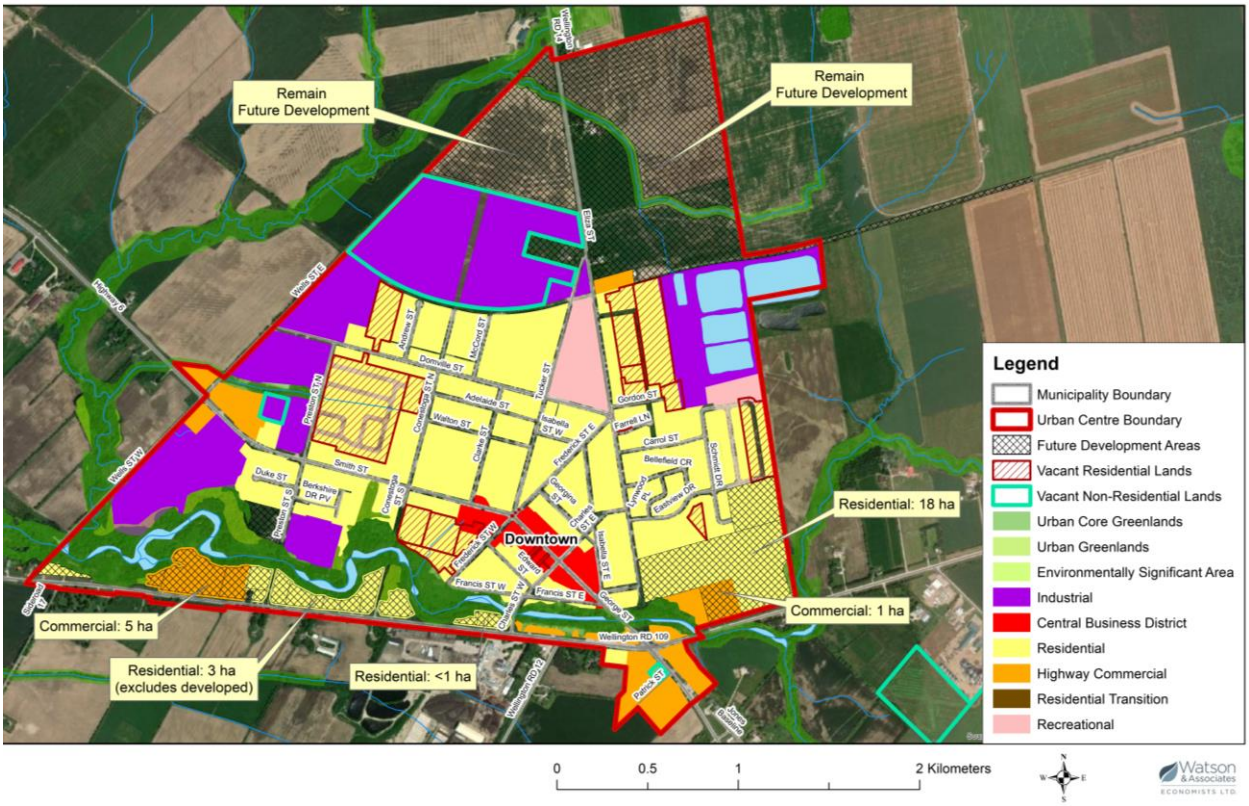
A review was carried out to examine the opportunities to accommodate a shortfall of designated residential lands in the Urban Centres of Arthur and Mount Forest to 2051. The Urban Centres include Future Development lands that are within the urban

[1] County of Wellington, Phase 2 Municipal Comprehensive Review Report: Land Needs, prepared by Watson & Associates Economists Ltd., March 31, 2022.

boundary and are available for redesignation. Future Development is a holding designation category in the County of Wellington O.P. and lands can be redesignated should there be a demonstrated need. The Township of Wellington North requires 81 hectares (200 acres) to be redesignated for Community Area uses (e.g., residential, commercial/institutional, parkland, local roads, and infrastructure).

Based on the review, the required lands to be redesignated in Arthur for residential and commercial uses to 2051 will be fulfilled as part of County of Wellington O.P.A. 123 which proposes to redesignate 28 hectares (69 acres) of Future Development lands in Arthur.

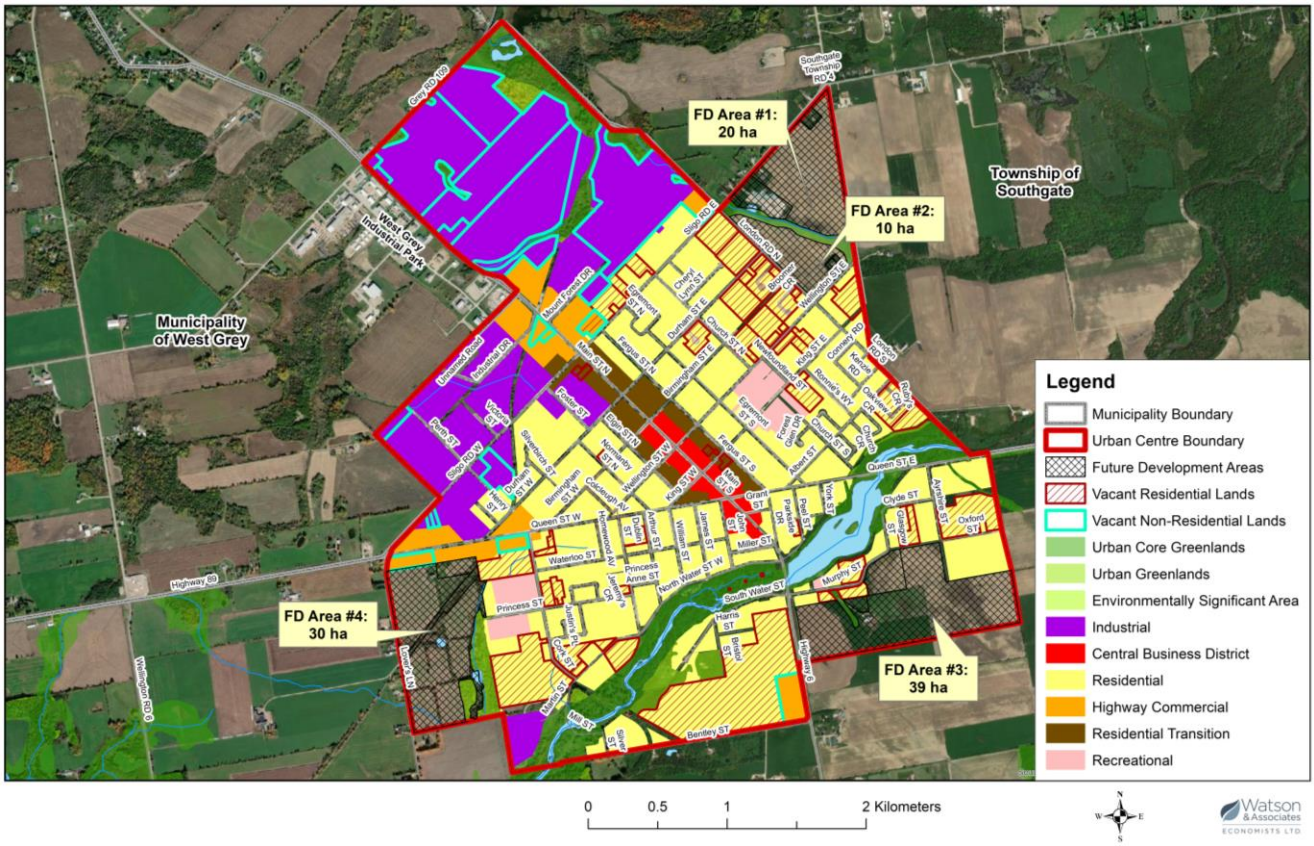
Figure ES-4
Township of Wellington North
Arthur Urban Centre
Potential Future Development Sites for Redesignation as part of O.P.A. 123



Note: only primarily vacant Future Development sites are identified in the Future Development overlay.

Mount Forest requires 54 hectares (133 acres) of Future Development lands to be redesignated for residential and commercial uses. The Consultant Team reviewed four Future Development site areas and recommended the redesignation of Future Development Sites #2 and #3 as illustrated in Figure ES-5. In addition to the planning and growth management considerations, all Future Development site areas were reviewed at a high level for water and wastewater servicing requirements.

Figure ES-5
Township of Wellington North
Mount Forest Urban Centre
Potential Future Development Sites for Redesignation



Infrastructure and Services Review

A review of the growth impacts on services (water, wastewater and stormwater, and transportation needs) was undertaken based on a high-level evaluation of infrastructure requirements and associated impacts from a fiscal and operational perspective. The

high-level infrastructure and service assessment comprises of the following components:

- **Infrastructure Analysis** includes a review of growth and its impact on planning for water, wastewater and stormwater, and transportation needs.
- **Municipal Fiscal Analysis** includes a high-level fiscal review of growth and the associated infrastructure and services to support growth, along with an impact to the operating requirements to service the future developments.

It is important to note that this high-level infrastructure and service assessment is considered a starting point in exploring the impacts of growth. Furthermore, it is the intention of this assessment to identify areas that the Township will need to explore as a part of further study. The assessment identified a number of water, wastewater, and road improvements that would be required to accommodate growth to 2051 in Arthur and Mount Forest, including the infrastructure improvements required on Future Development lands. Overall, it is recommended that the Township consider secondary or master planning for new greenfield areas in Arthur and Mount Forest before development takes place. This would also explore a phasing and staging plan that would ensure the orderly development of greenfield land that is aligned with infrastructure. Furthermore, it is recommended that the Township develop a Transportation Master Plan (including roadway, open and unopen road allowances, sidewalks, and trails), specifically a "Mobility Master Plan" that includes planning for all forms of mobility.

Strategic Growth Directions

This report has provided a series of strategic growth directions for the Township in managing growth over the long term. These strategic directions have been organized according to the 10 guiding principles in planning for growth, as previously discussed. The strategic growth directions encompass two types of actions: approaches and initiatives. Approaches are overarching recommended strategies that guide planning and decision-making processes. Initiatives are specific projects and programs implemented to achieve the Township's growth management objectives. The recommended strategic growth directions also identify whether the Township of Wellington North would be leading this approach or initiative, or whether it would be in partnership with the County of Wellington. It is important to recognize that some of the strategic growth directions identified are already being carried out by the Township and

are included as a recommendation to continue. The strategic growth directions tables should be reviewed regularly by Township staff and Council and updated where necessary.

Next Steps

The Township in partnership with the County of Wellington should continue to proactively monitor growth within the Township. As part of this review, the Township should also monitor growth as it relates to infrastructure and service needs. It is important to recognize that over the next couple of decades there will be updates to the growth forecast, allocations, and key growth targets (i.e., intensification and density) as part of an O.P.R. The County's next O.P.R. is likely to involve a longer time horizon, i.e., beyond 2051, and that will have an impact on land needs and infrastructure. As a result, to proactively prepare for discussions with the County, the Township should explore the infrastructure requirements of all Future Development lands within the Urban Centres of Mount Forest and Arthur through potential secondary plans or master plans. Exploring infrastructure requirements will also be key in preparing for potential discussions and planning applications by landowners or developers.

Furthermore, the Township should review the supply of the Township's vacant Employment Area lands more closely as part of an Employment Area Strategy. The Employment Area Strategy would explore the competitiveness of the Employment Areas, the appropriateness of vacant sites for industrial development, and opportunities to service vacant Employment Area lands.

Other key studies and initiatives that should be explored include an updated Transportation Mobility Plan, a Stormwater Study, an Intensification and Infill Strategy, a Downtown Parking Study, completing the Wellington North Recreation Master Plan, and a Housing Affordability Study. Furthermore, the Township should expand the Sewage Allocation Policy to include water/wastewater for the Township's Urban Centres to manage and phase residential and employment growth to 2051. This policy will provide transparency on growth priorities (balancing residential and non-residential demands and location), what improvements are required, and the timelines.

A reoccurring theme by members of the public included the need to bring the Township together as one collective community. It has been observed that there is a necessity to shift the focus from the distinctions among the communities within Wellington North

towards acknowledging and emphasizing the commonalities they share. Looking forward, the Township is anticipated to accommodate a higher rate of growth and, as a result, will need to ensure that Council and the general public of the Township come together to make decisions on accommodating growth that impacts the Township as a whole.

Report

Chapter 1
Introduction

1. Introduction

1.1 Purpose

1.1.1 Terms of Reference

In December 2023, the Township of Wellington North retained Watson & Associates Economists Ltd., in association with WSP Canada Inc. (hereinafter referred to as "the Consultant Team"), to prepare a Growth Management Action Plan. The Consultant Team comprises a multi-disciplinary team working together to provide a study that addresses and integrates a wide range of considerations in planning for growth and development within Wellington North. This includes a review of long-term population and employment trends, urban land needs, hard and soft infrastructure requirements, the financial impacts of development on the Township, and strategic planning policy direction. In developing the study work plan, the Consultant Team has established a detailed consultation and public engagement strategy to address the above-mentioned considerations.

1.1.2 What is Growth Management?

Growth management is a set of techniques to strategically plan the when and where of growth, considering both current and anticipated urban needs. The goal is to advance sustainable growth patterns by optimizing the utilization of land, resources, and infrastructure, while also managing other key priorities. Additional priorities often encompass building complete communities, addressing climate resiliency, preserving the character of communities, and safeguarding natural heritage.

1.1.3 Growth Management Roles

The Growth Management Action Plan must conform with provincial and County planning policies. The County of Wellington, as an upper-tier municipality, has a responsibility to set growth management parameters for the member municipalities within the County, including growth forecasts and allocations, and minimum targets for density and intensification. The County is required to prepare these under the provincial policy framework, which includes the Provincial Policy Statement (P.P.S.), 2020 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019 (Growth Plan, 2019). In updating the County of Wellington's Official Plan (O.P.), the County recently

undertook a Municipal Comprehensive Review (M.C.R.). That document provides a summary of the growth forecasts, Urban Centre growth allocations, and an urban land needs assessment to the year 2051. A more detailed review is provided in the Growth Management Action Plan Background Report prepared for the Township of Wellington North in March 2024.[1]

1.1.4 What Role Does the Township of Wellington North have in Growth Management?

The Township of Wellington North, as with other lower-tier municipalities in Ontario, holds responsibility for managing growth through a range of tasks, including:

- **Zoning By-law**: regulates how land can be used and developed, including provisions for setbacks, building heights, parking requirements, and permitted uses.
- **Development approvals**: reviewing and approving development applications such as subdivisions and site plans.
- **Infrastructure planning**: planning and providing for infrastructure, such as roads, water supply, wastewater treatment, and community facilities, to accommodate growth and development.
- **Phasing of growth**: staging the development of lands that align with infrastructure planning, economic development plans, and community priorities and values.
- **Municipal finance**: ensuring that the Township is planning for growth that is fiscally responsible over the long term.
- **Leadership in greenhouse gas reduction**: the P.P.S., 2020 requires municipalities address energy conservation and emission reductions through land use and development patterns.[2] Local municipal governments have a key responsibility in reducing greenhouse gas emissions, as it is estimated that 44% of Canada's greenhouse gas emissions were directly and indirectly controlled by municipal government.[3]

[2] Township of Wellington North Growth Management Action Plan Background Report prepared by Watson & Associates Economists Ltd. and WSP Canada Inc., March 2024.
[3] Provincial Policy Statement, 2020, policy 1.8.1.
[1] EnviroEconomics, Act Locally. The Municipal Role in Fighting Climate Change, prepared for the Federation of Canadian Municipalities, 2009.

- **Accommodating opportunities for a range of housing options**: the provincial policy framework includes a series of housing policies that stress the importance of municipalities in facilitating housing development, including supporting affordable housing options.
- **Business retention and expansion**: implementing policies and initiatives to encourage business growth and retention within the Township, thereby supporting local employment opportunities and preventing the erosion of the non-residential assessment tax base.
- **Collaboration in County planning**: collaborating with the County of Wellington and neighbouring member municipalities to coordinate growth management efforts, address regional issues, and achieve broader planning objectives.

A local growth management strategy can serve as a guide in decision making related to the above responsibilities, ensuring that development and initiatives align with the Township's long-term vision, priorities, and goals.

1.1.5 What is the Purpose of the Growth Management Action Plan?

The Growth Management Action Plan is designed to serve as a guiding document that broadly addresses the future impacts of growth as they relate to municipal service delivery, infrastructure requirements, urban land needs and land use planning policy, economic development, and financial sustainability as the Township evolves.

Key objectives of the Growth Management Action Plan include the following:

- Develop a long-term vision for growth and development for the Township to guide local growth management decision-making;
- Describe the type of growth the community wants and where that growth should occur;
- Implement the County's growth forecasts and policy directions through a local lens;
- Prepare a high-level assessment of the growth impacts from a services/ infrastructure perspective; and
- Suggest areas where the Township may need to explore further review and study.

1.1.6 The Growth Management Action Plan Serves as the Township's Growth Management Update

This Growth Management Action Plan is intended to update the Township of Wellington North Growth Plan prepared in 2018 by GSP Group Inc. and Curtis Planning Inc. The Township of Wellington North Growth Plan, 2018 was used to inform the County of Wellington on the Township's growth priorities and issues as the County conducted its M.C.R. and drafted Official Plan Amendments (O.P.A.s).[1]

A key difference between the Township of Wellington North Growth Plan, 2018 and this study is that this study does not conduct and evaluate growth scenarios for the Township's Urban Centres. The purpose of assessing growth scenarios and selecting the preferred growth scenario for the Township was to inform the County of Wellington M.C.R. growth management work. This study, the Growth Management Action Plan, instead focuses on building upon the County's growth management work, developing a local vision for growth, and providing direction on local implementation. As a result, this recognizes that the County of Wellington's growth management work was informed by the previous Growth Management Action Plan.

Through engagement with an Advisory Committee, Township and County staff, and the public, this study identifies a series of preferred growth principles and priorities for the Township.

1.2 Study Process and Components

1.2.1 Steering Committee

Over the duration of the study, the Consultant Team had active engagement with the Steering Committee which included members of the Township's staff and personnel from the County of Wellington. The Steering Committee provided a review of planning, infrastructure, and municipal finance information prepared for the Growth Management Action Plan.

[1] County of Wellington, County Official Plan Review – Report #PD2023-24, prepared for the County of Wellington Chair and Members of the Planning Committee by County of Wellington planning staff, September 14, 2023.

1.2.2 Advisory Committee

The Growth Management Action Plan was carried out with the engagement of an Advisory Committee of 18 members. The Advisory Committee includes Township councillors, community leaders, and a number of residents, including those who are business owners and members of community groups. Five workshop meetings were held with the Advisory Committee throughout the project and included:

- **Advisory Committee Meeting #1**: Introduction (January 16, 2024)
  - Project goals, objectives, and approach.
- **Advisory Committee Meeting #2:** Background Study (February 20, 2024)
  - How have we grown?
  - Discussion of the provincial and County's growth policy context from a local perspective.
- **Advisory Committee Meeting #3**: Developing a Vision (March 19, 2024)
  - Identifying principles and priorities for guiding growth.
- **Advisory Committee Meeting #4:** Preferred Growth Vision (April 30, 2024)
  - Selected principles and priorities for growth.
- **Advisory Committee Meeting #5:** Growth Management Recommendations (June 11, 2024)
  - Strategic directions for growth:
    - Finalizing growth vision and guiding principles.
    - Review of Future Development lands in Arthur and Mount Forest.
    - Review of draft Growth Management Action Plan recommendations.

Furthermore, report presentation packages were provided to the Advisory Committee for review and comment. The Advisory Committee provided valuable insights and supported the development of the Township's vision and guiding principles for growth.

1.2.3 Growth Management Public Survey

In the early stages of the project, a public online survey was posted on the Township's website to gather input from the broader community on growth-related topics. The Consultant Team reviewed the 42 surveys submitted. The information from the surveys supplemented the on-going feedback from the Advisory Committee which was used to inform this Growth Management Action Plan.

1.2.4 Background Report

The Background Report[1] is the first component of the Growth Management Action Plan. It provides important context for the Growth Management Action Plan, and discusses the implications of trends, growth projections, demographic shifts, and other factors influencing development patterns and how the Township is to plan for growth. Designed as a resource for discussions, this document provides background information and explores key themes related to residential and non-residential development trends that require long-term growth management considerations.

1.2.5 Growth Management Action Plan Report

This report, the Growth Management Action Plan, summarizes the Township's growth forecast, vision for growth, growth principles, and priorities. The report also includes a high-level assessment of the growth impact on municipal finance and operations, as well as hard servicing requirements (e.g., roads and water and wastewater servicing). Furthermore, it includes recommendations and direction on local growth implementation.

1.2.6 Study Components

The Growth Management Action Plan was prepared under five phases of work as illustrated in Figure 1.

[1] Township of Wellington North Growth Management Action Plan Background Report prepared by Watson & Associates Economists Ltd. and WSP Canada Inc., March 2024.

Figure 1
Growth Management Action Plan
Study Components

Provided below is a summary of the phases of work that was carried out to complete the Growth Management Action Plan report.

Phase 1 – Background Report

Phase 1 laid the foundation for the project's success by reviewing a series of background technical information related to planning for growth, conducting an analysis of evolving development trends and identifying key stakeholders. The Background Report was prepared in March 2024.

Phase 2 – Developing a Vision for Growth

As part of this phase, the vision for growth developed in the 2018 Wellington North Growth Plan was reviewed and updated. The Consultant Team undertook a visioning session with the Township's Advisory Committee with the primary objectives of determining whether the 2018 vision is still applicable and drafting updates to guide future development of the Township and its Urban Centres (Mount Forest and Arthur).

Phase 3 – Preferred Growth Vision

Phase 3 identified the preferred growth vision and its principles and priorities. Furthermore, a review of Future Development lands to accommodate additional designated residential and commercial lands in Arthur and Mount Forest was carried out.

Phase 4 – Service Impact Analysis

Phase 4 involved the assessment of the preferred growth vision based on its impact on services provided by the Township. This phase included a high-level review of the growth impacts on services (water, wastewater and stormwater, and transportation needs) based on a high-level evaluation of infrastructure requirements and associated impacts from a fiscal and operational perspective. A high-level review of servicing needs for the Future Development lands in Arthur and Mount Forest was carried out.

Phase 5 – Implementation and Action Plan Development

This final phase provides an updated Growth Management Action Plan for the Township to guide sustainable growth and development over the next 10 to 15 years. Working with the Advisory Committee, an updated growth vision and a series of guiding principles for growth have been established, building on the previous phases of this study and the results of the Wellington County M.C.R. and the 2018 Wellington North Growth Management Action Plan. Furthermore, recommendations were established for future development lands in Arthur and Mount Forest.

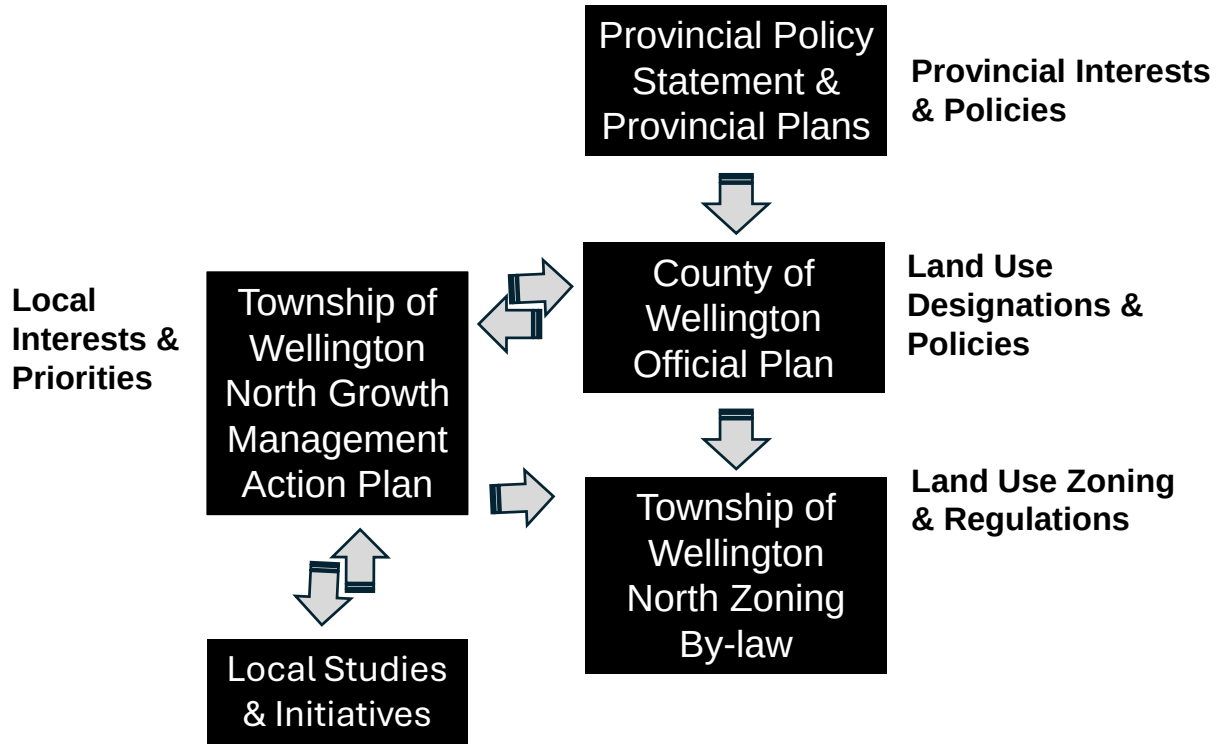
1.3 Policy Context and Key Documents

1.3.1 Relationship of Growth Management Action Plan within the Planning Policy Framework

Figure 2 illustrates the relationship between the Growth Management Action Plan within the broader provincial planning policy framework. The Growth Management Action Plan is intended to reflect the local interests and priorities of the Township in managing growth. This Growth Management Action Plan was prepared in accordance with key planning policies and documents, including the P.P.S., 2020 and the Growth Plan, 2019. In addition, the proposed Provincial Planning Statement (P.P.S., 2024) was

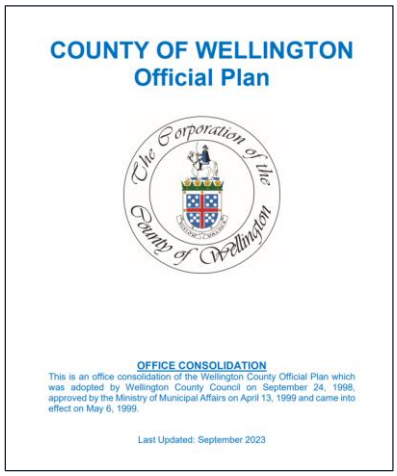
taken into consideration. Furthermore, the Growth Management Action Plan is intended to conform to the policies and growth allocations of the County of Wellington O.P. and is to be used to inform future updates of the County of Wellington O.P. as it relates to managing growth within the Township of Wellington North. It is important to recognize that the County of Wellington O.P. is a statutory policy document, while this document is considered a background document on providing local policy direction.

Figure 2
Relationship of Growth Management Action Plan
and Planning Policy Framework



1.3.2 County of Wellington Official Plan

The County of Wellington is currently undergoing a review of its O.P. to reflect current provincial policy direction and the County's strategic initiatives. The County is updating its O.P. through a series of O.P.A.s. The County O.P. is a long-range document designed to manage change and the physical development of the County over a long-term planning horizon. All member municipalities within the County are required to plan for long-term growth in accordance with the policies of the County O.P. All Zoning By-laws and local growth management strategies are required to implement the policies of the County O.P.



Except for the Town of Erin and the Township of Centre Wellington, the County O.P. is the only statutory plan for the member municipalities in accordance with the Ontario *Planning Act*. The local O.P.s of the Town of Erin and the Township of Centre Wellington are also required to conform to the County O.P.

It is important to note that while the Township of Wellington North does not have its own O.P., it does have its own section in the County of Wellington O.P. (section 9.7) for local policies. The local policies within the County O.P. primarily include special policy areas.[1] The County O.P. also includes the following schedules for the Township of Wellington North: growth structure, land use, source water protection, and mineral aggregates.

The Growth Management Action Plan is an important document to inform the County's future O.P. updates. The previous Township of Wellington North Growth Plan served as an important document to inform the County of local growth priorities as the County carried out O.P.A.s as part of the Official Plan Review (O.P.R.).

[2] County of Wellington Official Plan, adopted by Wellington County Council on September 24, 1998, approved by the Ministry of Municipal Affairs on April 13, 1999, and came into effect on May 6, 1999, Updated September 2023, Wellington North Local Policies, policy section 9.7.

Further information on the policy context can be found within the Background Report.[1]

1.3.3 Township of Wellington North Strategic Plan, 2024

Over several recent terms of Council, the Township has advanced its strategic planning framework. The 2019 to 2022 strategic plan was focused upon modernization and efficiency, partnerships, municipal infrastructure, alignment, and integration. It is important to recognize that the Strategic Plan is a document that is focused on short-term priorities for Council and Township staff. The Strategic Plan involved extensive consultation with the public and stakeholders to understand the satisfaction of the delivery of municipal services and to identify key focus areas for the Township. Background information from public engagement and outreach from this study was also utilized for this Growth Management Action Plan.

Provided below is a summary of the three key focus areas identified in the 2024 Strategic Plan for the Township:

- Shape and support sustainable growth so that the Township maintains and supports growth for a balanced and inclusive community;
- Deliver quality, efficient community services aligned with the Township's mandate and capacity so that the Township carefully maintains, enhances, and improves services that are balanced with community needs and resources; and
- Enhance information sharing and participation in decision-making so that the Township increases engagement and sense of community.[2]

1.3.4 Township of Wellington North Zoning By-law

The Wellington North Comprehensive Zoning By-law[3] is a regulatory tool used by the Township to control and regulate land use. It divides the Township into zones or special policy areas, each with a specific regulation governing the types of land uses, building sizes, heights, parking requirements, setbacks and other development standards. The Zoning By-law is enacted under the authority of the Ontario *Planning Act* and must

[2] Township of Wellington North Growth Management Action Plan Background Report prepared by Watson & Associates Economists Ltd. and WSP Canada Inc., March 2024.
[3] Township of Wellington North Strategic Plan, 2024, prepared by Do/Able Consulting.
[1] Ibid.

conform to provincial policies and the County of Wellington O.P. The Zoning By-law is an important tool for the Township, as it provides a framework for managing growth.

The Township of Wellington North has 26 zones within the Zoning By-law. Zone classes within the Township of Wellington North Urban Centres include the following zones that accommodate housing and employment growth:

- **Residential**: Low Density Residential (R1B and R1C); Medium Density Residential (R2); and High Density Residential (R3).
- **Mixed-Use**: Mixed-Use (MU1); and Main Street Mixed-Use (MU2).
- **Commercial and Institutional:** Institutional Zone (IN); Central Commercial Zone (C1); Highway Commercial Zone (C2); Neighbourhood Commercial Zone (C3); and Shopping Central Commercial Zone (C4).
- **Industrial**: Industrial Zone (M1).
- **Unserviced and Future Uses**: Unserviced Residential Zone (R1A); and Future Development Zone (FD). These include sites where the zoning limits the type of development/use until the lands are fully serviced (i.e., water and wastewater servicing).

As the Township grows, a key consideration for Wellington North will be the review of the Zoning By-law. A review of the Zoning By-law will ensure that it provides a framework to accommodate new, desired development forms and employment opportunities, and provides an opportunity to tackle climate resiliency. Furthermore, there may be an opportunity to consolidate zones, to provide more simplicity. For example, zones permitting commercial uses include several zones that may not reflect the evolving commercial structure and hierarchy of the Urban Centres of Arthur and Mount Forest. Moreover, the housing built-forms in the Zoning By-law do not consider new built-forms that are now appearing within the County of Wellington, including stacked townhouses and back-to-back townhouses.

1.4 Local Policy Context and Initiatives

Provided below is a list of key policy documents and initiatives prepared at the local level that the Township has influence in shaping and directing growth:

- Zoning By-law;

- Strategic Plan;
- Development Charges Background Study;
- Asset Management Plan;
- Township Industrial Strategy;
- Community Improvement Program;
- Municipal Servicing Standards;
- Partnership in Saugeen Connects;
- Business Retention and Expansion Surveys;
- Application for the Canada Mortgage and Housing Corporation Housing Accelerator Fund;
- Recreation Master Plan; and
- Municipal Cultural Plan.

Chapter 2
Growth Vision and Guiding Principles

2. Growth Vision and Guiding Principles

This chapter provides a summary of the growth vision and guiding principles for planning for growth within the Township of Wellington North. The growth vision and guiding principles were developed through workshops with the Advisory Committee, consultation with Township and County staff, and a public survey. Additionally, the growth vision and guiding principles build upon the previous Township of Wellington North Growth Plan, 2018 and the recently completed Township of Wellington North Strategic Plan, 2024. It is important to note that the growth vision and guiding principles were developed based on the provincial and County planning framework and represent key planning policy direction from the Province and the County of Wellington.

The growth vision and guiding principles are intended to describe the overall community planning and growth management direction for Wellington North. Furthermore, the growth vision and guiding principles are also intended to provide a consistent, long-term framework through which future planning decisions and investments are considered and evaluated towards a desired common outcome for the Township.

2.1 Considerations in Developing the Growth Vision and Guiding Principles

A key objective of the Growth Vision is to capture a range of topics in planning for growth and for the needs of existing and future generations. The guiding principles were developed to reflect the following considerations for the Township:

- What do we value?
- How will we make decisions on growth?
- What are our parameters for growth?
- How will we manage growth?

2.2 Developing the Growth Vision and Guiding Principles

What We Heard

The following is a consolidated summary that reflects discussions with the Advisory Committee and the results of the public survey.

Vision for the Future

- The rural and small town character of the Township is reflected in the property and design standards even as the communities grow.
- Communities and destinations are connected by safe roads and multi-modal transportation options.
- New developments support the realization of complete communities.
- More community facilities, such as schools, daycares, and recreation centres, are developed and provide programming and services for families and children.
- Community health services are accessible to all residents.
- A range of businesses and services are accessible within the Township, meeting the needs of residents.
- The Township is affordable for residents and financially sustainable.
- The downtown area is vibrant.
- The Township's agricultural base continues to thrive.
- Future generations continue to enjoy the natural environment and the Township's abundant natural resources.
- Cultural diversity is supported and promoted.

Purpose and Mission

- A united Township with a shared vision for growth and prosperity.
- Local representatives and stakeholders listen to and work with residents to envision and implement initiatives, programs, and changes that are identified. Residents understand how their input has been considered and used in community building initiatives.
- Create a liveable community that respects and protects the beauty of the Township's natural environment.
- Invest in initiatives that increase the quality of life for residents such as road improvements, public safety, programming and services for all ages and promote civic engagement.
- Establish rules for how the Township grows in terms of pace of development, density targets, and building form.

2.3 Growth Vision Statement and Guiding Principles

Wellington North is a place for everyone, supported by a high quality of life and sustainable growth for current and future generations.

The Township of Wellington North is guided by 10 principles in planning for growth, as illustrated in Figure 3. A summary of each principle follows on the next page.

Figure 3
Township of Wellington North
Guiding Principles in Planning for Growth

Together as One: Wellington North

The Township of Wellington North was formed in 1999, bringing together the former Township of Arthur, Village of Arthur, the Town of Mount Forest, and the Township of West Luther. It is recognized that each of these communities has their own heritage and identity. As a relatively young municipality with a 25-year history, the Township is still in the process of developing a collective identity. Up until recently, population growth in the Township has been modest. Looking forward, the Township is anticipated to accommodate a higher rate of growth and, as a result, will need to ensure members of the Township come together to make decisions on accommodating growth that impacts the Township as a whole.

The central focus of this guiding principle is to emphasize unity, collaboration, and collective growth goals within the Township. It underscores the importance of working towards common goals, fostering a sense of belonging, and supporting each other to create a thriving, inclusive, and prosperous Township.

Championing Environmental Stewardship and Protecting Resources for Future Generations

This principle ensures that development is sustainable and that growth minimizes the impact on the natural environment and the Township's ecosystems. To be responsible stewards of the lands within Wellington North, it is critical to ensure that decisions are assessed not just based on the impact to the current and next generation, but for several generations in the future. Championing environmental stewardship also considers opportunities to enhance the natural environment that will benefit future generations.

Supporting Responsible and Sustainable Growth and Infrastructure

This principle focuses on integrating environmental stewardship, fiscal responsibility and social equity into planning for growth and infrastructure. Key considerations in planning for responsible and sustainable growth includes ensuring that growth is phased and occurs at a pace that aligns with the timing of infrastructure delivery in a fiscally and sustainable manner. Moreover, this principle involves prioritizing infrastructure that is resilient to climate change, energy efficient and adaptable to future needs, while also

considering the social and economic benefits for the Township. By adhering to this principle, the Township aims to create a thriving, well-planned environment that supports both current and future generations.

Embracing Creative and Innovative Solutions

This principle involves applying forward-thinking solutions and approaches to address the challenges and opportunities facing the Township. It encourages development and infrastructure investments by the private and public sectors to push beyond conventional solutions. Moreover, this principle seeks to foster creativity in the development process while meeting provincial, County, and local planning requirements.

Engaging Residents, Businesses, and Community Groups

The Township comprises an engaged public, including a number of community groups. As the Township grows, there will be a need to ensure that public engagement remains strong. This principle involves actively engaging residents, businesses, and community groups to ensure that diverse perspectives and needs are considered. By fostering open dialogue and collaboration, decisions on growth and development will reflect the values and aspirations of the community, resulting in more effective and widely supported outcomes. Additionally, this principle considers the opportunity for collaboration on community building initiatives between members of the community and the Township, tackling issues facing the community today such as labour retention, affordable housing, and climate change.

Preserving the Character and Vibrancy of Our Communities and Countryside

The Township is fortunate to have a landscape of vibrant communities and a rural area with beautiful natural features and an agricultural base with some of the best soil conditions in the Province. This principle ensures that development and growth respect and enhance the distinctive qualities, natural features, and cultural heritage of the Township's communities and rural area, while accommodating change in a way that supports the local character and cohesion.

Nurturing a Diverse and Adaptable Local Economy and Employment Base

The Township's employment base is among the largest and most diverse in the County and the surrounding area. This principle recognizes the opportunity to build upon the strengths of the Township's employment base and local economy, while adapting to the key economic disruptors that are shaping the broader economy.

Providing Diverse and Affordable Options for Housing

The Township is anticipated to accommodate an increasingly diverse population base, as well as a large, aging population. Furthermore, across the Province housing affordability is eroding rapidly. This principle involves ensuring that growth in the Township accommodates a variety of housing types that cater to different income levels, family sizes, age groups, and lifestyle needs. By prioritizing affordability and diversity in housing, the Township will create an inclusive and vibrant community where residents have access to suitable and sustainable living arrangements.

Enhancing Mobility and Connectivity within the Township and Beyond

This principle emphasizes the need to plan communities in the Township that support the mobility of residents with a range of transportation options within the Township and in the surrounding area. Moreover, this principle also encourages opportunities to improve mobility within the Township's existing areas. Recognizing that public transit services are not currently offered within the Township, focus should be on accommodating cycling and improving pedestrian movement as alternatives to travel by vehicle. This principle also considers the need to accommodate parking for vehicles, bicycles, as well as unique parking requirements of the community (e.g., the parking of horse and buggies).

Ensuring the Safety and Wellbeing of Residents

This principle involves creating and maintaining secure, healthy, and inclusive communities where all residents can thrive. This includes ensuring that the new and existing communities have access to a range of services (e.g., health care, schools, and community centres) and opportunities for recreational activities. The Township already offers a range of services and recreational facilities; however, as the Township

continues to grow, consideration should be given to ensuring that the service levels are maintained or improved upon.

Chapter 3
Growth Forecast and the Township's Urban Land Needs

3. Growth Forecast and the Township's Urban Land Needs

The purpose of this chapter is to provide a summary of the growth forecast and allocations, and urban land needs to 2051. This chapter also provides a summary of key growth targets, including the intensification rate and people and jobs density on designated greenfield area (D.G.A.) lands. A more comprehensive review of the growth forecasts and land needs, including a review within the context of trends, growth drivers, and disruptors is provided in the Growth Management Action Plan Background Report prepared in March 2024.[1]

Appendix A provides tables on the growth forecasts by Urban Centre and the remaining Rural Area. Appendix B provides details on the land supply within the Urban Centres, including mapping and tables.

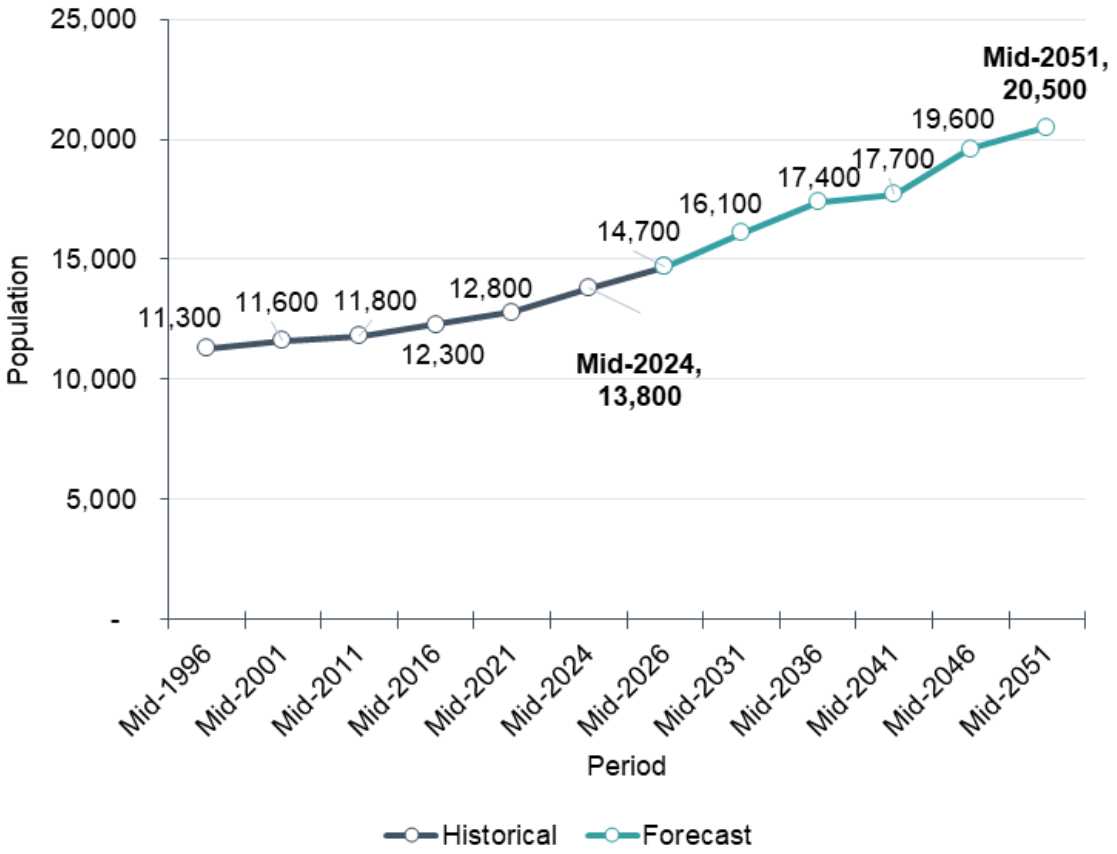
3.1 Wellington North Population, Housing, and Employment Forecast, 2021 to 2051

Figure 4 summarizes the population forecast to 2051, based on five-year increments, and the mid-2024 population estimate for the Township of Wellington North. By 2031, the Township is forecast to accommodate a population of 16,100, an increase of 2,300 or 329 residents annually over the 2024 to 2031 period. As a result, the population growth over that period is anticipated to increase at an annual rate of 2.2%. While the growth rate is very robust, this is slightly lower growth than the Township experienced over the past few years, 2021 to 2024, at 2.5%, which was due to a spike in residential building permit activity experienced during that period.

The growth rate is expected to gradually slow down over the long term. Over the 2031 to 2051 period, the Township is projected to add 4,400 residents at an annual growth rate of 1.2% due to an aging population base.

[1] Township of Wellington North Growth Management Action Plan Background Report prepared by Watson & Associates Economists Ltd. and WSP Canada Inc., March 2024.

Figure 4
Township of Wellington North
Population Forecast 2051

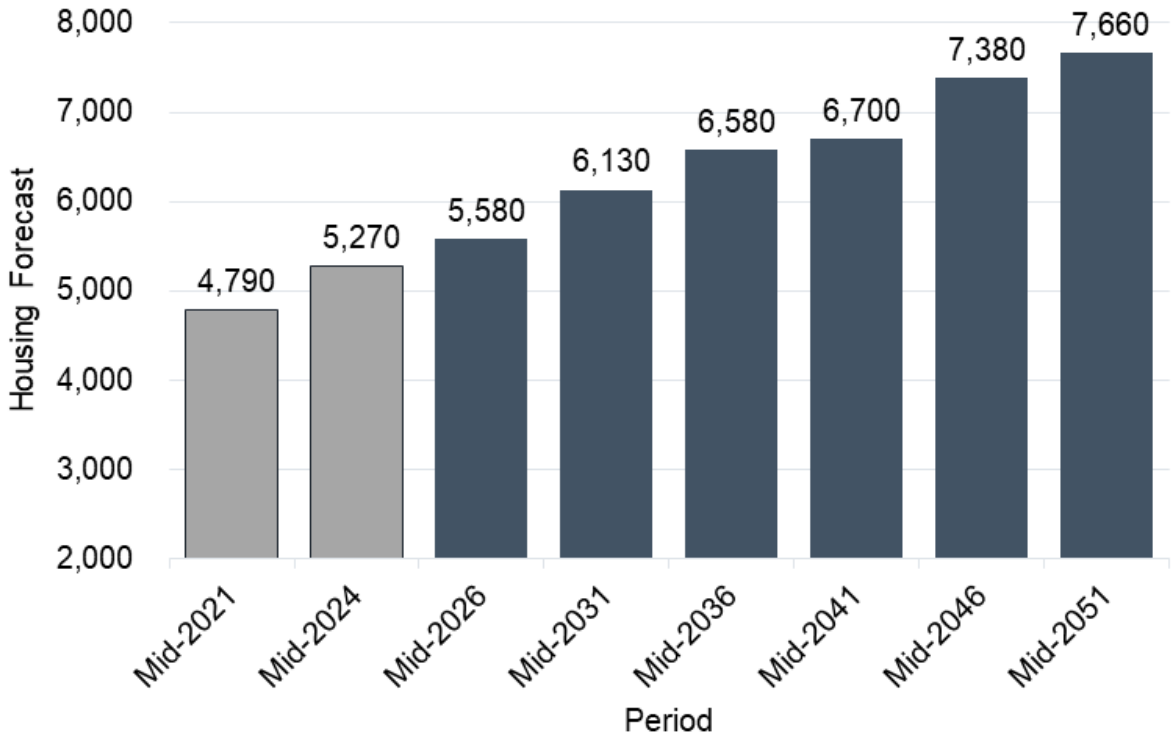


Note: Figure includes undercount at approximately 3%.
Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimates for 2021 and 2024 are based on Statistics Canada Census data and building permits issued for new housing since the 2021 Census. The estimate for 2026 has been adjusted by Watson & Associates Economists Ltd., 2024.

As summarized in Figure 5, over the mid-2024 to mid-2031 period, the Township is forecast to add approximately 860 housing units, or 123 units annually. Housing growth over the mid-2031 to mid-2051 period is anticipated to gradually slow down, increasing by approximately 77 units annually. By 2051, it is forecast that the Township will

accommodate 7,660 housing units, an increase of 2,400 housing units over the mid-2024 to mid-2051 period, or an average of just under 90 housing units annually.

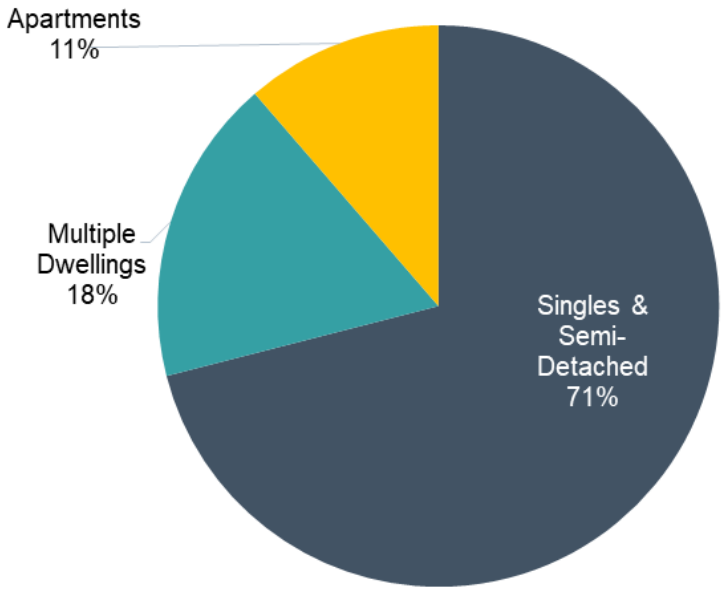
Figure 5
Township of Wellington North
Housing Forecast 2051



Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimates for 2021 and 2024 are based on Statistics Canada Census data and building permits issued for new housing since the 2021 Census. The estimate for 2026 has been adjusted by Watson & Associates Economists Ltd., 2024.

As summarized in Figure 6, over the early 2024 to mid-2051 period, it is forecast that approximately 71% of the new housing units will be single and semi-detached units, while 18% will comprise multiples (townhouses), and the remaining 11% will represent apartments.

Figure 6
Township of Wellington North
Housing Forecast by Housing Structure Type,
Mid-2024 to Mid-2051



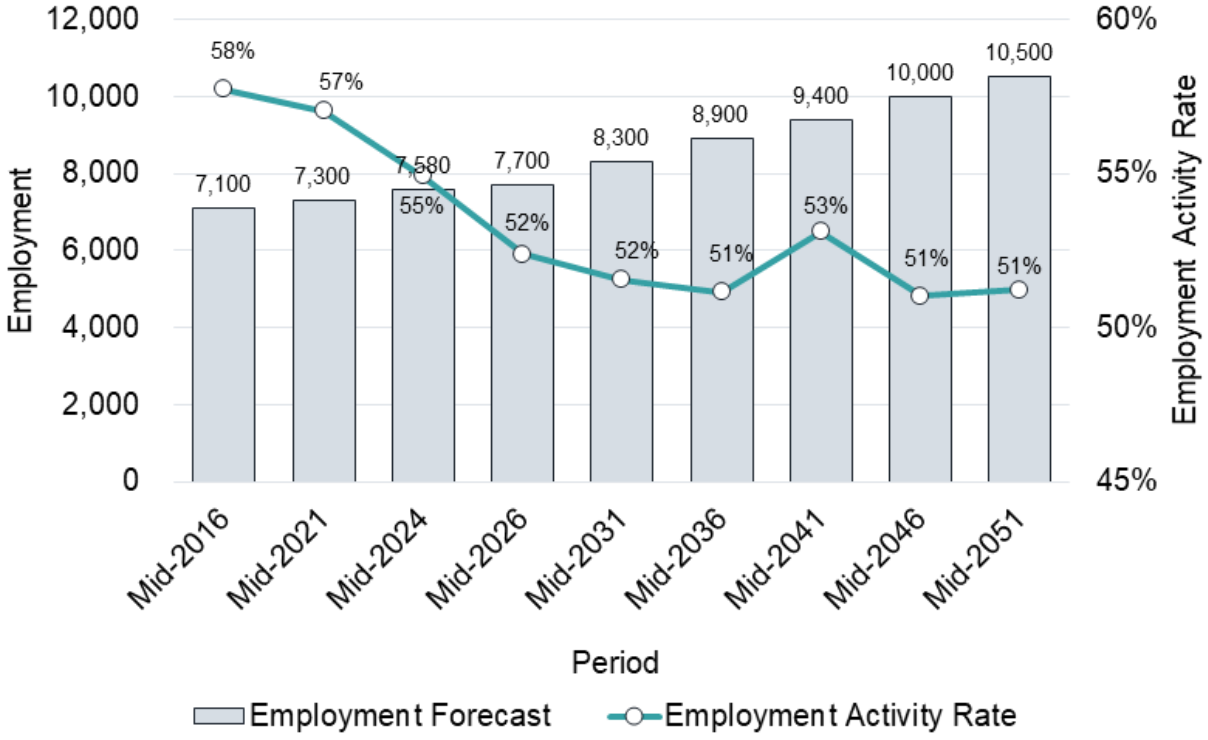
Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimates for 2021 and 2024 are based on Statistics Canada Census and building permits issued for new housing since the 2021 Census.

Figure 7 summarizes the employment forecast to 2051 for the Township of Wellington North in five-year increments, including a mid-2024 employment estimate. By 2031, the Township is forecast to accommodate an employment base of 8,300, an increase of 720 or 103 jobs annually over the 2024 to 2031 period. As a result, employment growth over that period is anticipated to increase at an annual rate of 1.3%. Over the 2031 to 2051 period, the growth rate is anticipated to continue to remain stable at 1.2%.

A key consideration in planning for complete communities is the ability to accommodate jobs as the community grows in population. An employment activity rate, the ratio of jobs to population, is used to understand the relationship between population growth and employment growth. Figure 7 illustrates the employment activity forecast for the Township of Wellington North over the long-term horizon. Compared to other member municipalities in the County, Wellington North has one of the highest employment activity rates at 55%. As identified in the County of Wellington Phase 1 MCR Report,

the employment activity rate in the County ranges from 26% in the Town of Erin to 73% in the Township of Puslinch. The County-wide employment activity rate is 43%.

Figure 7
Township of Wellington North
Employment Forecast and Employment Activity Rate to 2051



Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimate for 2024 by Watson & Associates Economists Ltd., 2024.

Wellington North boasts a strong industrial employment base, coupled with a strong agriculture and agri-food business sector which bodes well in accommodating a diversified employment base. The Township is home to one of the County's largest employers, Musashi Auto Parts Inc., an anchor business in Wellington County that supports Ontario's robust automobile and auto parts sector.[1] The Township of

[1] County of Wellington Economic Development Plan, 2023-2026, prepared by the County of Wellington Economic Development Department, 2023.

Wellington North and the Township of Centre Wellington accommodate a large share of the County's urban employment lands (i.e., industrial-type employment).

The existing employment base in Wellington North comprises the following sectors:

- Industrial: 48%
- Population-related employment: 44%
- Agriculture and primary employment: 8%

Further details of the employment base can be found within the Growth Management Action Plan Background Report.

3.2 Township of Wellington North Growth Structure

How is Growth Allocated and Managed within the Township?

As illustrated in Figure 8, the Township of Wellington's North Growth Structure comprises several components, as discussed below. Each component has different growth management objectives. The County has developed a Growth Structure that guides allocations within each of the member municipalities.

Urban System: This is where 94% of the Township's population growth and 91% of the Township's employment is anticipated by 2051. The Urban System comprises the Urban Centres of Mount Forest and Arthur that offer full municipal servicing (water and wastewater). Each Urban Centre includes the following sub-components with specific growth objectives:

- **Built-up Area (B.U.A.)**: This area is identified in dark purple on the map. This is where intensification is planned to occur and where the minimum intensification rate target applies. The delineation was created by the Province as part of the Growth Plan in 2006.
- **Designated Greenfield Area (D.G.A.)**: This area is identified in light purple on the map. This is where new urban residential, commercial, and institutional development on large vacant lands occurs. This is the area where a minimum people-and-jobs density target applies. The planning objective is to maximize

the utilization of land for housing and population-related employment opportunities.

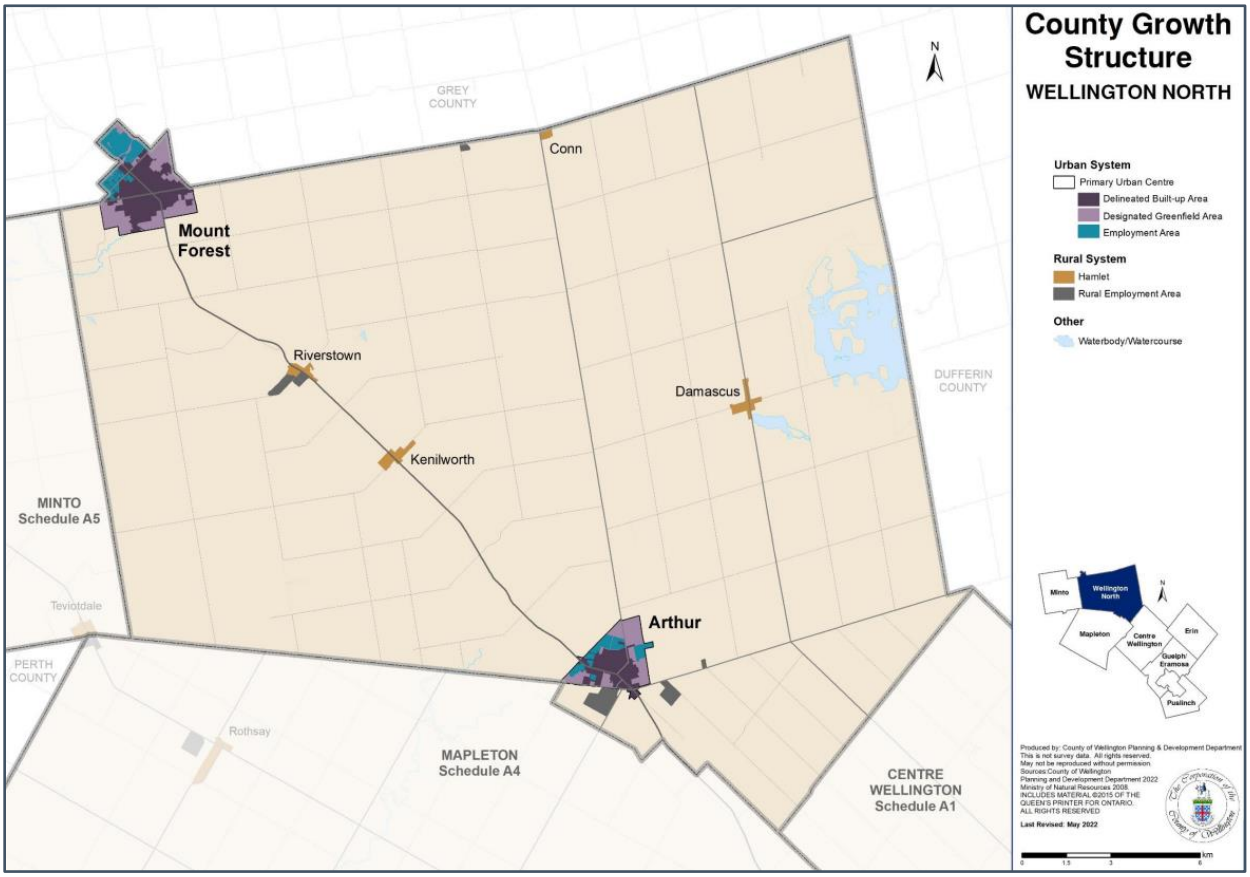
The above two sub-components are referred to as the **Urban Community Area.** This is where people live, go to school, shop, and work in offices, retail, and other facilities. The objective of the Urban Community Area is to build a complete community with a range of housing options, jobs, and amenities.

Urban Employment Area: Identified in aqua blue on the map, this is the area that accommodates industrial and export-based industries. This area is protected from Community Area uses that may be sensitive to the function of the Employment Area. The objective of this area is to accommodate employment uses that require separation from other uses and contribute towards a range of employment and economic opportunities for the Township.

Rural System: This is where 6% of the Township's population growth and 9% of the Township's employment is forecast by 2051. The Rural System comprises the Hamlets, Rural Employment Areas, and agricultural lands. The Rural System does not offer full municipal servicing (water and wastewater). The Rural System has the following sub-components with specific growth objectives:

- **Hamlets**: Identified in orange on the map, these small rural communities are planned for minor rounding out of subdivisions and other small-scale residential and employment opportunities. Wellington North has four Hamlets: Riverstown, Kenilworth, Damascus, and Conn.
- **Rural Employment Areas**: These areas are identified in grey on the map. They provide opportunities for the cluster of rural economic development activities that are industrial in nature and do not require servicing.
- **Remaining Rural**: Identified in an ivory colour on the map, Remaining Rural is the largest component of the Township. These lands accommodate agricultural and other rural-based activities. These lands are protected from large-scale urban development and include prime agricultural lands that require protection.

Figure 8
Township of Wellington North
Growth Structure



Source: County of Wellington O.P.A. 119.

3.3 Urban Centre and Rural Area Population and Housing Allocations to 2051

Figure 9 provides a summary of the population growth allocations for the Township's Urban Centres and the Rural Area, while Figure 10 provides the housing growth allocations. Further details on the growth forecast allocations can be found in the Growth Management Action Plan Background Report.

As of mid-2024, Mount Forest is estimated to have a population base of 5,800, while Arthur is estimated to have a population base of 3,300. Mount Forest and Arthur are both anticipated to experience robust population growth, increasing at an annual rate of

2.2% and 1.4%, respectively, to 2051. The Rural Area has a population of 4,700 as of mid-2024. Over the 2024 to 2051 period, Mount Forest is forecast to add 4,700 residents and 1,620 households, while Arthur is anticipated to add 1,500 residents and 600 households. The Rural Area is expected to add 500 residents and 170 households over the same period.

Figure 9
Township of Wellington North
Population Allocations by Urban Centre and Remaining Rural Area

Location	Mid-2021 Population	Mid-2024 Population	Mid-2051 Population	Population Growth, 2024 to 2051
Mount Forest	5,300	5,800	10,500	4,700
Arthur	2,700	3,300	4,800	1,500
Urban Area	**8,000**	**9,100**	**15,300**	**6,200**
Rural Area	**4,800**	**4,700**	**5,200**	**500**
Township	**12,800**	**13,800**	**20,500**	**6,700**

Note: All figures include a population undercount estimated at 3%. Figures have been rounded.
Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimates for 2021 are based on the Statistics Canada Census. The estimate for 2024 is by Watson & Associates Economists Ltd.

Figure 10
Township of Wellington North
Housing Allocations by Urban Centre and Remaining Rural Area

Location	Mid-2021 Housing Units	Mid-2024 Housing Units	Mid-2051 Housing Units	Housing Growth, 2024 to 2051
Mount Forest	2,290	2,490	4,110	1,620
Arthur	1,035	1,240	1,840	600
Urban Area	**3,325**	**3,730**	**5,950**	**2,220**
Rural Area	**1,465**	**1,540**	**1,705**	**166**
Township	**4,790**	**5,270**	**7,655**	**2,386**

Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. 2021 estimates are based on Statistics Canada Census. 2024 is an estimate by Watson based on residential building permit activity.

3.4 Urban Centre and Rural Area Employment Allocations to 2051

Figures 11a and 11b provide a summary of the employment growth allocations for the Township's Urban Centres and the Rural Area. As summarized, Mount Forest is anticipated to accommodate 64% of the Township's employment growth, largely benefiting from opportunities to build upon its existing employment base, including a diverse industrial base. Mount Forest is a key commercial centre within the County, representing the County's second largest commercial base after Fergus, with over 39,000 sq.m (420,000 sq.ft.) of retail and commercial gross floor area (G.F.A.).[1] Furthermore, Mount Forest offers a full range of institutional services, including the Township's only hospital and secondary school.

Arthur is anticipated to accommodate 30% of the Township's employment growth. Benefiting from its proximity to the large labour pool to the south (Guelph Census Metropolitan Area), Arthur has an opportunity to build upon its existing industrial base. Furthermore, strong growth within Arthur is anticipated to support the need for additional commercial and institutional employment. Arthur already accommodates some of the County's largest industrial employers and has the County's fourth largest commercial base in terms of G.F.A. (approximately 25,000 sq.m or 269,000 sq.ft.).[2]

Recognizing the advancement in automation of agricultural activities and the consolidation of farms, traditional agricultural activities are not anticipated to experience a significant increase in employment growth. Diversification of farm activities, including accommodating non-traditional agricultural activities (e.g., farm commerce activities, biofuels, etc.) may off-set losses in traditional agricultural activities. As the second-largest agricultural market in the County in terms of agricultural operating

[2] County of Wellington, Phase 2 M.C.R. Report: Land Needs Assessment, prepared by Watson & Associates Economists Ltd., March 31, 2022.
[3] Ibid.

income and land area (behind the Township of Mapleton), Wellington North has a substantial agricultural base upon which to build.[1] Rural Employment Areas, clusters of designated industrial lands with no municipal servicing (i.e., water and wastewater servicing) are anticipated to contribute towards a stable rural employment base. These lands provide opportunities for dry industrial uses that do not require a high level of water consumption. Given the lack of water servicing, these lands would not attract major investments due to requiring water services for fire protection needs.

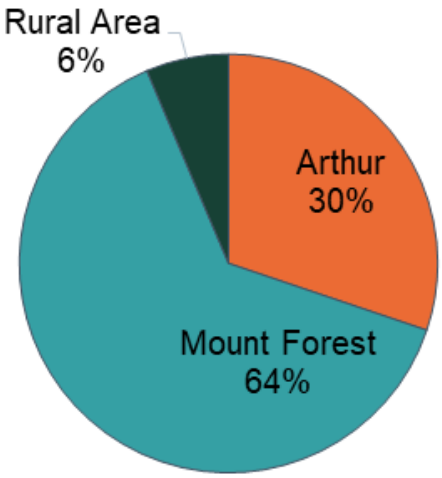
Figure 11a
Township of Wellington North
Employment Growth Allocations

Time Period	Arthur	Mount Forest	Rural Area	Total
2024	2,370	3,840	1,390	7,600
2051	3,245	5,680	1,575	10,500
2024 to 2051	**875**	**1,840**	**185**	**2,900**

Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimate for 2024 by Watson & Associates Economists Ltd.

[1] County of Wellington County Official Plan Review – Agricultural System Mapping and Policy Review, Report to Planning Committee, March 9, 2023.

Figure 11b
Township of Wellington North
Employment Growth Allocations



Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimate for 2024 by Watson & Associates Economists Ltd.

3.5 Key Growth Targets

3.5.1 Summary of Growth Targets

Figure 12 provides a summary of the growth targets to be considered in planning for growth in the Township of Wellington North, while Figure 13 provides an illustration of the key policy areas. As previously discussed, these targets are considered minimums. Over the planning horizon, the Township in partnership with the County of Wellington should continue to monitor the growth targets summarized in Figure 12. Other factors in monitoring growth should be explored, including the range of non-residential uses (e.g., commercial, industrial, and institutional) and housing options (e.g., housing by tenure and structure type).

Figure 12
Township of Wellington North
Growth Targets

Growth Targets	Target
Township Population by 2051	**20,500**
Township Employment by 2051	**10,500**
Minimum Intensification Rate – Share of Housing Growth in the Built-up Area	**20%**
Minimum Density in Greenfield Areas	**32 people and jobs/hectare**

Source: Derived from the County of Wellington, Phase 2 M.C.R. Report: Urban Land Needs Assessment prepared by Watson & Associates Economists Ltd., 2022.

Figure 13
Township of Wellington North
Example of Policy Areas in Arthur

The following provides a further discussion on planning for growth through intensification and on D.G.A. lands.

3.5.2 Planning for Intensification

3.5.2.1 What is Considered Intensification?

The Growth Plan, 2019 considers any residential development within the delineated B.U.A. as intensification. All residential development between mid-2022 and mid-2051 occurring within the B.U.A. counts towards the County's intensification target. As previously discussed, a B.U.A. was delineated for all urban settlements as of 2006 as part of the Growth Plan for the Greater Golden Horseshoe, 2006 under the *Places to Growth Act, 2005*.[1] The B.U.A. was based on the portion of the urban settlement that was primarily developed at that time. It is important to note that the delineation of the B.U.A. does not change over time.

Intensification includes the following opportunities:

- Development on infill sites (i.e., accommodating growth on underutilized sites);
- Redevelopment at a higher density level;
- Vacant lands and the rounding out of existing subdivisions;
- Residential development incorporated on commercial or mixed-use lands;
- Conversion of buildings to other uses (e.g., conversion of a non-residential building for housing); and
- Additional Residential Units (A.R.U.s) on existing residential lots.

3.5.2.2 Benefits and Considerations in Planning for Intensification

Intensification maximizes the use of existing urban infrastructure and services by increasing the density of development in established areas, thereby reducing the potential need to expand the Urban Centres outward. Furthermore, intensification builds compact development patterns that can provide a range of housing options that are accessible to amenities and improve climate resilience by building housing that is more energy efficient (multiple dwelling unit structures are more energy efficient than single housing unit structures). It is important not to oversimply the benefits of intensification. Accommodating too much intensification or focusing on growth only through intensification may pose challenges, as the Township may be required to

[1] Places to Grow. Better Choices. Brighter Future. Built Boundary for the Growth Plan for the Greater Golden Horseshoe, 2006. Ministry of Public Infrastructure Renewal. Ontario. 2008.

upgrade and replace infrastructure (e.g., bigger watermains and trunk sewers) prior to its identified useful life, which can have significant financial implications. Furthermore, considering the range of demographic groups attracted to the Township (i.e., young adults, families with children, empty nesters and seniors), Wellington North will need to accommodate a variety of housing options by structure type, tenure (i.e., ownership and rental), and location. To effectively accommodate the forecast housing demand for this area, the Township will need to plan for an appropriate balance of housing options within both the B.U.A. and D.G.A. that aligns with anticipated market demand. Accordingly, the Township should plan for intensification that considers a range of factors, including servicing requirements and market demand.

3.5.2.3 Anticipated Housing Growth to be Accommodated Through Intensification

As of December 2023, the Township has the potential to accommodate just over 550 units, including 15% (82 units) low-density units, 46% (255 units) medium-density units, and 39% (217 units) high-density units within the B.U.A.s of the Urban Centres. It is estimated that approximately 80% of the identified intensification potential is in the planning approvals process (i.e., registered, draft approved, and applications under review). Appendix A provides further details on the intensification supply potential. The intensification supply potential excludes A.R.U. potential. The County of Wellington M.C.R. forecasts that the Urban Centres in Wellington North can accommodate approximately 90 A.R.U.s over the 2019 to 2051 period as a minimum.[1]

The Township of Wellington North is planned to accommodate a minimum target of 20% of its housing growth through intensification which represents approximately 19 housing units annually. The intensification rate for Wellington North is among the highest in the County, reflecting opportunities to accommodate a range of housing options in the B.U.A.s of Mount Forest and Arthur. In order to reach a 20% intensification rate to 2051, it is estimated that the Township will need to accommodate just over 470 housing units in the B.U.A. to 2051, which represents most of the Township's intensification potential (550 units). Achieving a higher rate of intensification would require that the Township encourage more A.R.U.s or the redevelopment of existing lands. The current intensification target would represent a level of intensification that would gradually

[1] County of Wellington, Phase 2 M.C.R. Report: Land Needs Assessment, prepared by Watson & Associates Economists Ltd., March 31, 2022.

accommodate higher density uses, while maintaining the character of the Urban Centres.

3.5.3 Planning for Growth on Designated Greenfield Area Lands

3.5.3.1 Land Area and Housing Unit Potential in the Designated Greenfield Area

As previously discussed, the D.G.A. represents lands within the Urban Centers of Arthur and Mount Forest that were developed as of 2006. These lands are planned to accommodate primarily at-grade housing, as well as other uses to support the residential base, such as local roads and infrastructure (e.g., stormwater ponds) and parkland, commercial, and institutional uses. It is estimated that the D.G.A. in Arthur and Mount Forest collectively comprises 319 hectares (788 acres) of gross developable land area (net of environmental features). The D.G.A. lands include approximately 170 gross hectares (420 gross acres) (net of environmental features) of lands designated as Future Development or approximately 53% of the D.G.A. lands. Future Development lands are identified in the County of Wellington O.P. as lands that require redesignation in order to accommodate development.

As of 2024, the D.G.A. in Arthur and Mount Forest, combined, has the potential to accommodate just over 1,200 housing units on vacant designated residential lands, excluding Future Development lands. Future Development lands have the potential to accommodate a minimum of 1,600 additional housing units.[1] In total, it is estimated that the D.G.A. has the potential for approximately 2,800 housing units on vacant lands within the D.G.A. The yield of the housing potential depends on the density assumed for the D.G.A. and the amount of land that would be redesignated for residential and non-residential uses on Future Development lands.

3.5.3.2 Designated Greenfield Area Density Target

A key objective in planning for the D.G.A. lands is to plan for a density that would accommodate an optimal utilization of land and a range of housing and job options. In

[1] Estimate of housing yield on Future Development lands assumes an estimated average density of 32 people and jobs/hectare. A population of 4,900 and an employment base of 500 is assumed. Population is divided by an average persons per unit of 2.97.

planning for the D.G.A., municipalities are required to plan for a minimum people and jobs density. Similar to the intensification target, as part of the M.C.R. the County reviewed the opportunities and challenges of achieving a higher density for each member municipality and Urban Centre. It is important to recognize that a large portion of the vacant lands in Arthur and Mount Forest already have approved developments, which was considered in assessing the density. The Township of Wellington North is required to plan to accommodate the following as a **minimum** by Urban Centre:

- **Arthur:** 32 people and jobs/hectare
- **Mount Forest:** 32 people and jobs/hectare.

The Township should support developments that exceed this density target where appropriate and recognize that developments may have challenges in exceeding the density depending on site conditions (e.g., site configuration). It can be expected that the people and jobs density on some sites will exceed the minimum. As such, it is important to recognize that the people and jobs density assumptions discussed above represent averages, and opportunities to increase density may vary on a site level basis. Based on the minimum D.G.A. density target of 32 people and jobs/hectare, the Township's D.G.A. lands are planned to accommodate, at a minimum, a population of 6,500 people and 1,000 jobs by 2051. This assumes that 48% of the Future Development lands would be redesignated for residential and commercial uses and accommodate development by 2051.

3.6 Urban Land Needs Requirements

3.6.1 Does the Township Require Additional Community Area Land?

As previously discussed, Community Area lands are lands within the Urban Centres that accommodate residential, commercial, institutional, and recreational/parkland uses (i.e., all urban uses, except industrial-type employment uses). The County's M.C.R. identified that Mount Forest and Arthur have sufficient land available within the Urban Centre boundary to accommodate growth to 2051. While the Township does not require additional lands outside the Urban Centres boundary to accommodate growth, it does require approximately 81 gross hectares (200 gross acres) of Future Development lands to be redesignated for Community Area uses. This is anticipated to accommodate just over 600 housing units, as well as parkland, local roads, and

commercial/institutional uses. The County of Wellington M.C.R. identified that there is a need for additional designated commercial lands within Arthur and a minimum of 2 hectares (5 acres) would be required to 2051. It was recommended that additional lands beyond the 2 hectares (5 acres) be considered for commercial uses to ensure a market choice of designated commercial lands. The commercial land requirement is included in the 81 hectares (200 acres) of Future Development land required to be redesignated for Community Area uses. A summary of the amount of Future Development lands to be redesignated for Community Area uses (e.g., residential, commercial, and institutional) by Urban Centre is summarized in Figure 14.

Figure 14
Township of Wellington North
Future Development Lands to be Redesignated
to Community Area Uses by 2051

Urban Centre	Land Area, hectare
Arthur	27
Mount Forest	54
Total	**81**

Source: Derived from the County of Wellington, Phase 2 M.C.R. Report: Urban Land Needs Assessment prepared by Watson & Associates Economists Ltd., 2022.

3.6.2 Does the Township Require Additional Employment Area Land?

Employment lands are an integral part of Wellington North's economic development potential and accommodate a significant share of the Township's businesses and employment. Employment Area lands accommodate primarily export-based employment, including a wide range of industrial uses (e.g., manufacturing, distribution/logistics, and transportation services). These uses may include accessory or ancillary office and/or retail uses as part of an integrated development with industrial as the primary use. In contrast to other urban land uses (e.g., commercial and mixed-use areas), Employment Area lands provide the opportunity to accommodate export-based employment sectors that cannot be easily accommodated in other areas of the Township. While the Township's Employment Areas in the Rural Area may provide vacant land opportunities, due to the lack of municipal servicing (i.e., water and wastewater servicing) only a limited range of industrial uses can be accommodated.

It is estimated that Mount Forest has a vacant developable Employment Area land supply of 86 hectares, while Arthur has approximately 30 hectares (75 acres) of vacant developable Employment Area lands.[1] An Employment Area land needs assessment and analysis was prepared for the County of Wellington in the Phase 2 M.C.R. Report: Urban Lands Needs Assessment. The M.C.R. report identified that collectively, the two Urban Centres have a demand of 70 gross hectares (173 gross acres) (net of environmental features) of Employment Area lands to 2051, averaging 2 hectares (5 acres) annually and accommodating 10% of the employment growth through intensification.

In accordance with the County's M.C.R. report, it was identified that there is a 70-hectare (173-acre) surplus of Employment Area lands to 2051.[2] While there is a surplus of Employment Area lands in the Township, it is important to recognize that a

[2] Based on the current County of Wellington Vacant Commercial Land Inventory.
[1] County of Wellington, Phase 2 M.C.R. Report: Land Needs Assessment, prepared by Watson & Associates Economists Ltd., March 31, 2022.

large portion of the vacant Employment Area land supply is not currently available for development or not suitable for immediate use due to servicing and the current use of the sites. For example, a large portion of the Employment Area land supply in Mount Forest is used for agricultural purposes and the land is not currently marketed for industrial purposes. Over the long term, these lands may become available; however, in the short term, the Township has a limited supply of serviced Employment Area lands ready for industrial development. Moreover, it is important to note that the surplus of Employment Area lands is within Mount Forest, as Arthur would require all of its 30 hectares (74 acres) of vacant Employment Area lands for employment growth to 2051.

Chapter 4
Accommodating Additional Designated Urban Lands

4. Accommodating Additional Designated Urban Lands

The purpose of this chapter is to examine the opportunities to accommodate a shortfall of designated lands to accommodate residential and commercial growth in the Urban Centres of Arthur and Mount Forest to 2051. The Urban Centres include Future Development lands that are within the urban boundary and are available for redesignation. Future Development is a holding designation category in the County of Wellington O.P. and lands can be redesignated should there be a demonstrated need. The Township of Wellington North requires 81 hectares (200 acres) to be redesignated for Community Area uses (e.g., residential, commercial/institutional, parkland, local roads, and infrastructure).

4.1 Opportunities of Future Development Lands

Future Development lands are sites within the Urban Centres of Arthur and Mount Forest that have been placed into a holding category in the County of Wellington O.P. to limit development until a need is demonstrated. These lands currently have no use identified in the County O.P. and are identified in white on the County's O.P. land use schedules. The following is the County of Wellington O.P. framework for redesignating Future Development lands:

a) "that a need for additional land is demonstrated by the fact that approximately three-quarters of the land designated for development by this Plan are already developed;

b) that services of all kinds are or can be reasonably and economically provided to the proposed development;

c) that adequate development plans which indicate the type of development and facilities to be provided (such as, streets, schools, parks and shopping facilities) are or will be made available to the municipality;

d) that the proposed development is contiguous to and is a logical extension of existing development;

e) any required impact studies have been completed."[1]

As previously discussed, the Township has approximately 170 hectares (420 acres) of vacant Future Development lands within Arthur and Mount Forest. The Township requires 81 gross hectares (200 gross acres) of the 170 hectares (420 acres) of Future Development lands to be redesignated for Community Area uses. By Urban Centre the following Future Development lands are required for redesignation:

- Mount Forest: 54 hectares (133 acres)
- Arthur: 28 hectares (69 acres).

4.2 County of Wellington Official Plan Amendment 123

Recently, the County of Wellington completed a draft O.P.A. (O.P.A. 123) which proposes to redesignate Future Development lands in Arthur and Mount Forest and other Urban Centres in the County. Provided below is a summary by Urban Centre of the Future Development lands proposed to be redesignated as part of O.P.A. 123.[2]

Arthur Urban Centre

Approximately 28 hectares (69 acres) of vacant Future Development lands (excludes environmental features) in the southern area of Arthur are proposed to be redesignated as part of O.P.A. 123 and comprise the following land uses:

- Residential: 22 hectares (54 acres)
- Commercial: 6 hectares (15 acres)
- Total: 28 hectares (69 acres).[3]

These lands are estimated to accommodate at least 120 housing units and approximately 200 population-related employment jobs. In addition, the County

[2] County of Wellington Official Plan, Updated February 2024, policy 8.10.4., pp. 104 and 105.
[3] County of Wellington, Draft O.P.A., 123. Public Meeting of O.P.A., 123 was held on June 13, 2024, to review Draft O.P.A. 123.
[1] Measurements by Watson & Associates Economists Ltd. based on mapping from the County of Wellington. Note only includes vacant Future Development lands to be redesignated (i.e., excludes developed Future Development lands).

redesignated additional lands that are already developed as part of the housekeeping of the County O.P. The redesignation of Future Development lands through O.P.A. 123 is anticipated to accommodate all the required growth to 2051. The remaining Future Development lands, situated in the northern portion of Arthur, are proposed to remain as Future Development. These lands should be further explored in subsequent O.P.R.s by the County and with input from the Township. Figure 15 provides a map of the Future Development lands, which are identified in a crosshatch overlay with the proposed designation underneath. Provided below is a summary of the two key areas that have been redesignated from Future Development to other Community Area uses in County of Wellington O.P.A. 123.

Southeast Area of Arthur (Future Development Area Site #1)

The southeast area of Arthur includes approximately 18 hectares (44 acres) of residential lands and 1 hectare (2.5 acres) of commercial lands proposed to be redesignated from Future Development. Residential and commercial lands in the southeast area of Arthur were identified as a priority for future growth residential and commercial uses for Arthur in the Township of Wellington North Growth Plan, 2018 and benefit from the following:

- Logical extension of a residential growth area in Arthur;
- Opportunity to integrate commercial uses with potential commercial uses within walking distance;
- Large site area with no fragmentation and limited environmental features;
- Site can accommodate a housing supply shortfall of up to 120 housing units and commercial land needs; and
- Supports the traffic bypass of Wellington Road 109 and Highway 6.

Based on a water and wastewater servicing review, the following improvements are required for this area:

- Water – Site can be serviced by a 150 mm watermain on John St. An additional 150 mm watermain connection will be available through Schmidt Dr of the neighbouring Eastridge Subdivision (Phase 5) once it is constructed. The site is anticipated to have low static operating pressure, 241 – 310 kPa (35 – 45 psi), due to the high elevation of the site. Subsequently, the anticipated fire flows will be in the range of 50 – 100 L/s. Both of these operating parameters are

considered to be on the low end of design requirements, thus, the site is not likely to support only low density residential development without supplemental infrastructure.

- Wastewater - Sanitary servicing to the site may be achieved by an existing 200 mm diameter sewer on John St and/or a future 200 mm sewer on Schmidt St. Grading constraints on Schmidt St may result in very limited flow going into the Schmidt St sewer. This site is estimated to generate 20 – 25 L/s which will result in some of the downstream sewers on Francis St being near full capacity. As such, off-site upgrades to service this development may be warranted, however further investigation will be required.

Southwest Area of Arthur – County Road 109: Residential Sites (Future Development Sites #2 and 3)

O.P.A. 123 proposes the redesignation of small residential sites along County Road 109 in the southwest area of Arthur. The redesignation also includes developed large residential lots that are interspersed with the vacant lands. It is estimated that the vacant portion is 3 hectares (approximately 7 acres). The redesignation of the vacant sites due to their configuration and surrounding context, is not anticipated to accommodate a significant yield of housing. Any residential development within this area may provide opportunities to increase the housing supply beyond the 2051 land needs requirements.

Based on a water and wastewater servicing review, the following improvements are required by sub-areas as discussed below. It is important to note that these sites are among a few large residential lots.

Site Area #2: This site fronts onto WR109 near the Charles St West intersection. The total development area 1 ha and is proposed to be designated as residential based on the proposed County of Wellington O.P.A. 123.

- Water – Water servicing to the site is available through the existing 200 mm watermain on Charles St West. The site sits at a low elevation and is expected to achieve the sufficient minimum static operating pressure of 410 – 441 kPa (60 – 64 psi)

- Wastewater – There is no existing sanitary sewer along the frontage of WR109. The closest sewer is approximately 80 m east of the site and on the opposite side of WR109. Flows from this site will likely need to be pumped due to the topography. The site is estimated to generate 1 L/s of flow with minimal effect on the existing downstream sewers.

Site #3: This site fronts onto WR109 between the extensions of Fredrick Street West and Preston Street South. The total site area is 3 ha and is proposed to be designated as a residential based on the proposed County of Wellington O.P.A. 123.

- Water – Watermain would need to be extended along WR109 for at least 600 m to the intersection of Charles Street to deliver water services to this site. This site is expected to have a static operating range of 380 – 420 kPa (55 – 61 psi) and a fire flow in a low to moderate range. A lack of watermain looping available to this site is a concern for this site.
- Wastewater - There is no existing sanitary sewer along the frontage of WR109. The closest sewer is approximately 650 m east of the site and on the opposite side of WR109. Sewage will also likely need to be pumped due to the topography. The site is estimated to generate 2.5 L/s of flow which will result in the sewers downstream of the site being less than 90% full.

<u>Southwest Area of Arthur – County Road 109: Commercial Site (Site # 4)</u>

O.P.A. 123 proposes the redesignation of lands along County Road 109 in the southwest area of Arthur, including a large commercial site (5 hectares or 12 acres). This site is located on WR109, near the intersection of the Preston Street extension. The redesignation of the Future Development lands will contribute towards providing market choice of commercial land supply options over the long term. The commercial site has the potential to accommodate mid-sized commercial uses (e.g., grocery store, hardware store, etc.).

Based on a water and wastewater servicing review, the following improvements are required for this area:

- Water - Watermain would need to be extended east along WR109 for at least 1,200 m from the intersection of Charles St to deliver water services to this site.

This site is expected to have a static operating range of 410 – 448 kPa (60 – 65 psi) and a fire flow in the low end due to a lack of watermain looping available. However, fire flow is increased to acceptable levels if a watermain is also extended west on WR109 to the Wells St or Preston St ROW and extended under the Conestoga River to connect to the existing watermain.

- Wastewater - There is no existing sanitary sewer along the frontage of WR109. The closest sewer is approximately 13,00 m east of the site and on the opposite side of WR109. Sewage will also likely need to be pumped due to the topography. The site is estimated to generate 4.2 L/s of flow which will result in the sewers downstream of the site being less than 90% full.

Remain Future Development

This site area is situated within the northern area of Arthur Urban Centre as shown on the map in Figure 15. The total area is approximately 65 ha and is proposed to remain designated for Future Development at this time due to growth anticipated to 2051. The Future Development lands in the south (previously discussed) will accommodate the anticipated land needs in Arthur to 2051, therefore is anticipated Future Development lands in the north will not be required by 2051.

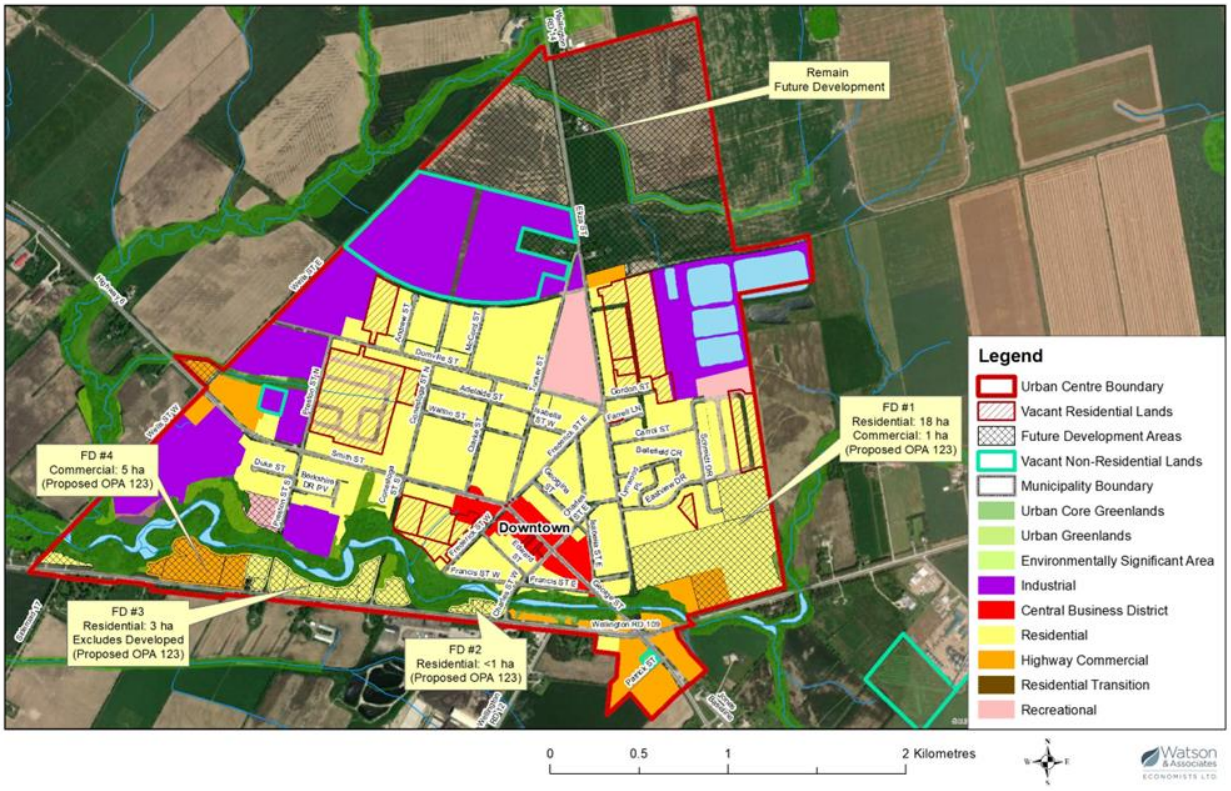
Based on a water and wastewater servicing review, the following improvements are required for this area:

- Water – Water servicing to this site will require a 300 m watermain extension on Eliza St and a 1000 m watermain extension on the unopened Wells St ROW. Both watermain extensions are required to ensure redundancy. The site is anticipated to have static operating pressure ranging between 241 – 310 kPa (35 – 45 psi) and low available fire flow. This means this site is likely suitable only for low density residential development.
- Wastewater – Sanitary servicing will require significant sewer extensions from the existing system. This site can be expected to generate 55 L/s of flow and all sewers downstream of the are less than 90% full.

The Township has considered next steps related to future development on lands in the north area of Arthur that are currently identified to remain designated Future Development at this time (not identified to be re-designated in the County of Wellington O.P.A. 123). A significant concern/constraint will be sewage treatment capacity at the

existing Arthur Wastewater Treatment Plant (W.W.T.P.). The additional capacity resulting from this is not significant (i.e., ~400 ERU) when compared to the developments being proposed. As such, a further expansion of the wastewater treatment system within Arthur will be required to support this and other future developments. To this end, the Township is proposing a Class Environmental Assessment. A project to investigate a further expansion of the wastewater treatment system. This will be a Township project that will be included in the next development charge background study and by-law. Updates regarding this project will be provided as available.

Figure 15
Township of Wellington North
Arthur Urban Centre
Future Development Lands



Mount Forest Urban Centre

O.P.A. 123 proposes to redesignate Future Development lands for general housekeeping purposes and the lands are not anticipated to accommodate long-term housing needs. Most of the lands proposed to be redesignated are already developed.

As a result, in collaboration with the County of Wellington, the Township will need to identify approximately 54 hectares (133 acres) of Future Development lands to be redesignated as Community Area uses to accommodate approximately 490 housing units, as well as other uses to support the population base (e.g., parkland and commercial/institutional uses). It is important to note that this land requirement is beyond what will be accommodated through O.P.A. 123. Furthermore, the land requirement may be reduced depending on the density anticipated.

4.3 Review of Future Development Lands in Mount Forest

Figure 16 illustrates the four potential Future Development site areas in Mount Forest that can be considered for redesignation to accommodate growth to 2051. All Future Development sites are considered serviceable; however, they have unique servicing requirements. Provided below is a summary of the Future Development site areas. All land area measurements exclude environmental features identified in the County of Wellington O.P.

- **Site 1: Northeast Mount Forest – Sligo Road and West of Side Road 41 Southgate**
    - The site area is approximately 20 hectares (49 acres) of land forming a triangular site area that is surrounded by the Township of Southgate to the north and east. An environmental feature located to the west of the site separates the lands from the rest of the Urban Area in Mount Forest. Given the surrounding context, the development of these lands would require cross-jurisdictional cooperation with the Township of Southgate in terms of road improvements and other planning considerations.
    - Based on a review of water and wastewater servicing requirements, this site would require the following:
        - Water – 300 mm diameter extension on Sligo Road with the watermain looping into the existing watermain distribution system.
        - Sanitary – Extension of existing deep (5.5 m) sanitary sewer on Sligo Road.
- **Site 2: Northeast Mount Forest – London Road and South of Sligo Road**
    - The site area is approximately 10 hectares (25 acres) located along London Road. This site has the potential to integrate with the growing

residential areas to the west and south. An environmental feature to the east provides a discernible urban edge to the Urban Area of Mount Forest.

- Based on a review of water and wastewater requirements, this site would require the following:
  - Water – 300 mm diameter extension on Sligo Road with the watermain looping into the existing watermain distribution system.
  - Sanitary – Extension of existing deep (5.5 m) sanitary sewer on Sligo Road. Connections with the existing trunk storm sewer on London Road are possible.

- **Site 3: Southeast Mount Forest – Highway 6 and South of Murphy Street**
  - The site area is approximately 39 hectares (96 acres) along Highway 6, forming a large rectangular block. The site provides good connectivity with the existing Urban Area of Mount Forest. Additionally, it provides a logical extension of a larger active development area (large draft approved subdivision to the west), creating an opportunity for a cohesive new Community Area. Additionally, there is a large vacant designated commercial site on the west side of Highway 6 which offers an opportunity to support the local population base.
  - Based on a review of water and wastewater servicing requirements, this site would require the following:
    - Water – Most of the Future Development area (i.e., easterly two-thirds) is high in elevation and may require a separate high-pressure zone complete with a booster pumping station with standby power. It is important to note that Murphy Street is a dead-end watermain at present. The servicing strategy for these lands may require a second Main Street connection for looping, but a higher pressure zone portion of this Future Development area would not end up being looped. A possible upgrade to the Murphy Street watermain would be needed to upsize to a 250 mm diameter, but this depends on the location of the booster pumping station. The need for a booster pumping station and the existing dead-end high-pressure zone may preclude the opportunity for high-density residential development in this area.
    - Sanitary – This area requires a new sewage pumping station (S.P.S.) to be constructed on South Water Street, including a

gravity sanitary sewer on South Water Street from the S.P.S. to Main Street, a sewer crossing of Main Street (Highway 6) by jack and boring, and extending this new sewer easterly along Murphy Street. The gravity sewer would be 7.0 m deep. Alternatively, as S.P.S. would be required to pump from Murphy Street to the highway crossing.

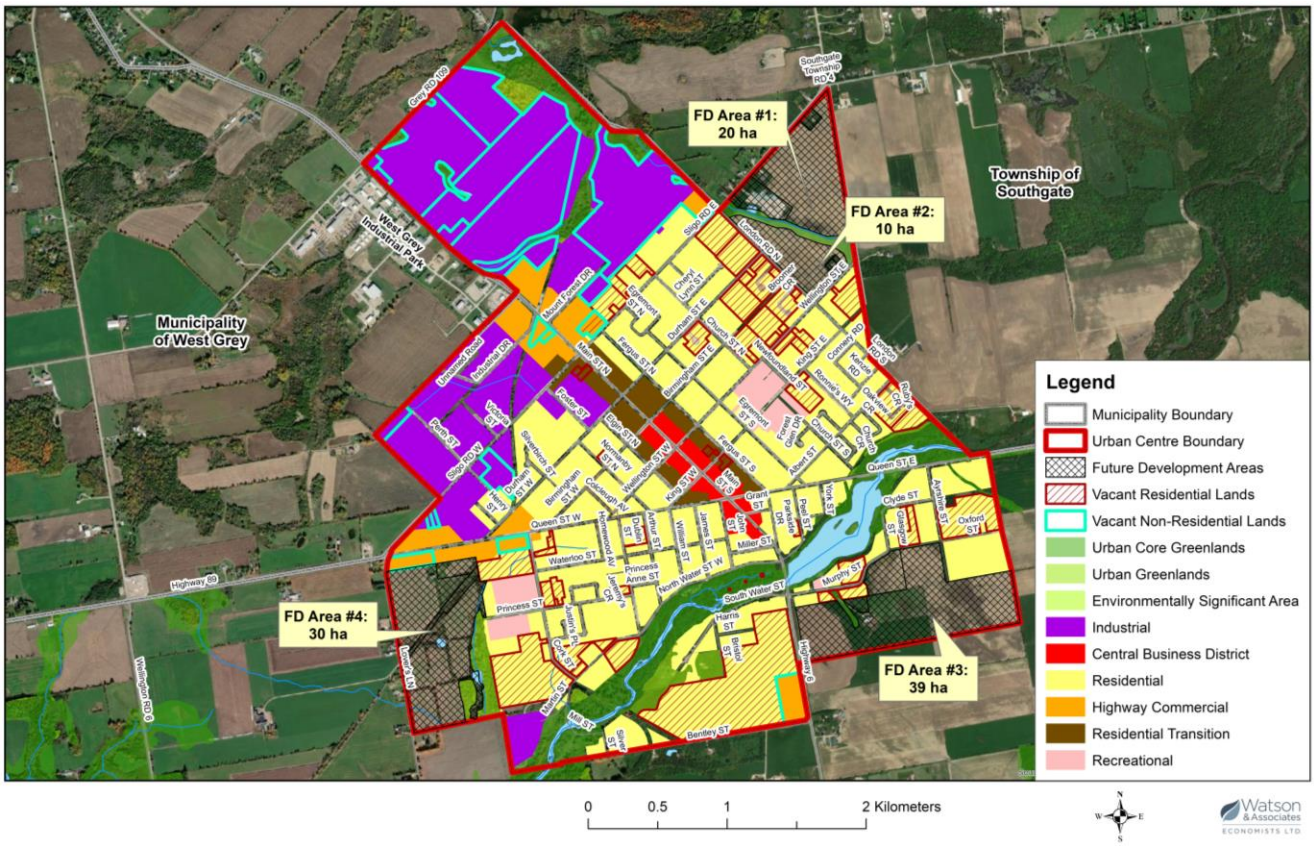
- **Site 4: Southwest Mount Forest – Lover's Lane and South of Queen Street West**
    - The site area is approximately 30 hectares (74 acres) along Highway 6, forming a large rectangular block. While there are some institutional uses within walking distance (a recreational complex and an elementary school), the site is separated from the residential area of the Urban Area due to a large environmental feature to the east. A key consideration is that the site is along Lover's Lane which is considered an important cultural landscape feature for the Township.
    - Based on a review of water and wastewater servicing requirements, this site would require the following:
        - Water – 250 mm diameter extension on Queen Street and Lover's Lane is required with the watermain looping into the existing watermain distribution system. As a result, the servicing may not be able to accommodate higher-density residential due to limitations of practical looping options (this has not been evaluated to date).
        - Sanitary – An S.P.S. is required. The sanitary sewer on Queen Street would need to be extended from Cork Street to Lover's Lane. The existing Cork Street sewer collection and Cork Street S.P.S. capacities would need to be elevated to ensure that no upgrades are required to service this future land area.

Based on review, it is recommended that the following potential new growth areas in Mount Forest, which offer collectivity and accommodate most of the land needs required (49 hectares), be considered as a priority for future growth phasing:

- Future Development Site #3 (39 hectares or approximately 96 acres); and
- Future Development Site #2 (10 hectares or approximately 25 acres).

These Future Development sites should be reviewed further in more detail prior to redesignation. Additionally, it is recommended that the Township consider the absorption of existing designated lands, including those with approvals already in place. It is important to note that Mount Forest has a sufficient supply of vacant designated lands to accommodate housing and commercial growth to 2036. Recognizing the potential timeline to designate and service lands, the Township should explore opportunities for redesignation in the short term (i.e., within the next five years).

Figure 16
Township of Wellington North
Mount Forest Urban Centre
Potential Future Development Sites for Redesignation



Note: Area maps for each Development Area are provided in Appendix C.

Chapter 5
Infrastructure and Services Review

5. Infrastructure and Services Review

The purpose of this chapter includes a review of the growth impacts on services (water, wastewater, stormwater, and transportation needs) based on a high-level evaluation of infrastructure requirements and associated impacts from a fiscal and operational perspective. The high-level infrastructure and service assessment comprises of the following components:

- **Infrastructure Analysis** includes a review of growth and its impact on planning for water, wastewater, stormwater, and transportation needs.
- **Municipal Fiscal Analysis** includes a high-level fiscal review of growth and the associated infrastructure and services to support growth, along with an impact to the operating requirements to service the future developments.

It is important to note that this high-level infrastructure and service assessment is considered a starting point in exploring the impacts of growth. Furthermore, it is the intention of this assessment to identify areas the Township will need to explore as part of further study.

5.1 Infrastructure Analysis

5.1.1 Water and Wastewater Review

The Township of Wellington North is served by two water and wastewater systems – one located in Arthur and the other located in Mount Forest. The total cost of the Township's water and wastewater systems is recovered from operating (non-rate) revenues and through direct billing (rate) to customers. Rate revenues include revenues from flat rate water and wastewater charges to residential customers, and base/metered charges to non-residential customers. The Township is estimated to have 3,866 water customers and 3,749 wastewater customers (Arthur and Mount Forest combined). [1]

[1] Based on information obtain from the Township of Wellington North staff on the number of Wellington North Power customers that are billed.

5.1.1.1 Approach

In preparing the review of the impact of growth on planning for water and wastewater systems, WSP Canada Inc. reviewed the following documents:

- Water and Sanitary Systems, Technical Study – Arthur (September 2020);
- Township of Wellington North, Mount Forest Sanitary and Water Servicing Technical Update (January 2021);
- Township of Wellington North, Community of Arthur 2024 Reserve Capacity Calculation;
- Township of Wellington North, Community of Mount Forest 2024 Reserve Capacity Calculation; and
- Township of Wellington North, 10-year Capital Project Forecast.

The Township of Wellington North, in July 2024, retained Triton Engineering Services Ltd. to prepare a memorandum on the impact of water and wastewater servicing on Future Development sites in Arthur.

5.1.1.2 Existing Water Systems

Arthur

The Arthur water system is a single pressure zone watermain distribution network that is supplied by three bedrock wells – Well No. 7B, Well No. 8A, and Well No. 8B – and flow is stored in two elevated towers – Charles Street Tower and Freud (Spheroid) Tower. The network includes approximately 19.1 km of watermains ranging in size from 50 mm to 600 mm with 1,369 services. The system services 1,258 residential and 111 industrial, commercial, and institutional units, while also providing fire protection to the entire service area. System operation is controlled by a Supervisory Control and Data Acquisition system where generally well pumps are turned on and off based on water levels in the storage towers.

The production capacity of the Arthur water system is 4,216 m^3/day. According to the Arthur 2024 Annual Reserve Capacity Calculation (R.C.C.) completed by Triton Engineering Services Limited, the annual R.C.C. three-year maximum day demand (M.D.D.) in Arthur is 1,545 m^3/day. This is within the capacity of the system. It is assumed that if failure occurs at Well 7 (since Wells 8A and 8B are very unlikely to fail

simultaneously) that the system capacity would be reduced to 2,255 m^3/day. Even with reduced capacity, the system can still support the 2023 M.D.D.

Water storage requirements are calculated based on Ministry of Environment, Conservation and Parks guidelines as a sum of fire storage, equalization storage, and emergency storage. Total system storage volume and required storage according to the Arthur 2024 R.C.C. is 1,137m^3 and 1,113 m^3, respectively. The recommended fire flow was also determined to be 100 L/s based on the 2020 Arthur Technical Study. Based on this, the system storage is adequate in supporting the system. A computer simulation model of the Arthur Water System was created as part of the Master Plan and updated for the purposes of the 2020 Arthur Technical Study. The results from the model determined that the existing distribution network's normal pressure ranged from approximately 40 psi to 80 psi, which is within the acceptable operating range.

Mount Forest

Mount Forest is supplied by a municipal drinking water system, comprising four bedrock well supplies, an elevated water storage standpipe and booster pumping station system, and a water distribution network. Based on recent water demands and the growth forecast projections, the following water design values were chosen: 275 L/capita/day (all uses), M.D.D. factor of 2.0 (according to MECP guidelines), and peak hour demand factor of 3.0 (according to MECP guidelines).

Based on current operations, the operational firm capacity of the wells, 5,976 m^3/day, can support the 2024 M.D.D. of 2,409 m^3/day. The water storage standpipe has an effective capacity of 2,000 m^3, while the water storage requirement for Mount Forest, calculated based on the MECP guidelines, is 2,766 m^3 per the 2024 Mount Forest R.C.C. Therefore, the system storage is not adequate to support the system; however, the system has a significant surplus of supply (3,567 m^3/day) which is available to augment the storage deficiency per the 2024 Mount Forest R.C.C. The referenced Technical Study deferred the fire flow study to the Fire Department. A computer simulation model of the Mount Forest Water System was created and calibrated and determined that the existing distribution network normal pressure ranged from approximately 50 psi to 70 psi, which is within the acceptable operating range.

5.1.1.3 Existing Wastewater Systems

Arthur

The Arthur wastewater system includes a dedicated sanitary sewer/forcemain collection network, a wastewater treatment plant (W.W.T.P.), two S.P.S.s, and an effluent storage lagoon facility. The system provides 1,229 service connections according to the Arthur 2024 R.C.C., and includes 19.1 km of sewermains ranging in size from 150 mm to 450 mm, and approximately 4 km of forcemains ranging in size from 150 mm to 250 mm.

The Arthur W.W.T.P. provides tertiary treatment utilizing the extended aeration process. The rated average day flow capacity of the W.W.T.P. is 1,465 m^3/day, and discharges to the Conestogo River. Due to capacity limits between May 1 and September 15, effluent is instead pumped to the effluent storage lagoons for holding. The collection system for Arthur is divided into three service areas and is collected by the Wells Street S.P.S., Preston Street Trunk Sewer, and Frederick Street S.P.S. The three-year annual average day flow based on flows recorded at the W.W.T.P. from 2021 to 2023 is 1,301 m^3/day which complies with the Certificate of Approval for the W.W.T.P. The reserve capacity is 65 m^3/day, which corresponds to an additional 45 equivalent residential units. For Arthur, the M.E.C.P. recommends a flow rate of 400 L/cap/day, which is lower than the existing average flow rate of 581 L/cap/day, since this value includes industrial, commercial, and institutional flows which are significant, and the flow rate will decrease as residential growth increases.

Mount Forest

The Mount Forest sanitary sewer system consists of four S.P.S.s (Perth Street, Cork Street, Durham Street, and North Water Street), an extended aeration W.W.T.P. that discharges to the South Saugeen River, and a collection sewer network. This system had 2,385 service connections in 2023 per the 2024 Mount Forest R.C.C. The three-year annual average day flow from 2021 to 2023 is 1,901 m^3/day. The W.W.T.P. has an approved annual average day capacity of 2,818 m^3/day, and an approved peak flow capacity of 15,000 m^3/day.

5.1.1.4 Future Water Systems

Arthur

Based on these projections, the M.D.D. will exceed firm capacity between 2040 and 2051. Also, existing reserve capacity is anticipated to be nearing or in deficit by 2045. Therefore, the Arthur Technical Study recommends that the Township is proactive in securing future water sources (Arthur well supply is underway to this effect) and should monitor the Water Supply Reserve Capacity trends on an annual basis.

Based on the computed requirements, existing available storage will be insufficient in supporting the projected population. Therefore, it is recommended in the Arthur Technical Study that additional storage be added to the system. Note that some of the potential Future Development areas are located at higher topographical elevations and operating ranges may need to be increased to adequately service these areas.

The following approach is recommended by the Arthur Technical Study to accommodate future growth:

- Decommissioning of the Charles Street Tower is recommended given its age, limited volume, and on-going remedial/maintenance costs.
- Freud Tower is well into its service life and may require significant upgrades (i.e., mixing/rechlorination system) and maintenance (i.e., painting, corrosion treatment) within the planning horizon of the required additional storage.
- The increase in volume required to service future development would result in a relatively small tower size. This size would have a higher cost per unit volume than a larger sized tower that could provide the entire required volume. Also, the tower could be oversized to accommodate beyond the 2051 requirements at minimal additional cost.
- Retaining the existing towers in the system would not allow for the higher operating range unless a separate pressure zone is created. A dual pressure zone would increase the complexity of the system and limit the benefit of the increased operating level.
- The new facility would be equipped with improved features (i.e., separate fill/draw risers, provisions for mixing/re-chlorination, improved safety/accessibility).

The following major water servicing projects have been identified for Arthur in the Township's 10-year Capital Project Forecast:

- A new water tower in Arthur (2026); and
- A new well in Arthur to improve water supply capacity (2025).

Mount Forest

The existing firm capacity is adequate in supporting even the 50-year scenario. The projected M.D.D. was higher than the 2,070 projected M.D.D., due to the revised growth rate projecting a population of 10,500 persons in 2051 while the technical update projected a population of 10,449 persons in 2070. Upgrades are not deemed necessary on the basis of capacity restraints. The total design storage reaches a volume of 4,425 m^3, but the effective capacity of the existing standpipe is only 2,000 m^3. Therefore, upgrades must be considered to accommodate for future growth. The recommendation proposed in the Mount Forest Technical Update is to either demolish the existing standpipe and construct a single elevated tank with a capacity of 4,425 m^3 or construct a new second elevated storage tank at the north end of the community with a minimum capacity of 2,425 m^3.

The following projects are recommended by the Mount Forest Technical Update to support the future water system – consistent with commentary above, these capital project recommendations are now required to support the growth projected for 2051:

1. Complete a Schedule B Class EA to finalize an evaluation of the two proposed recommendations for water storage.
2. Replace the 300 mm diameter Grant Street cast iron watermain (prioritize this if demolishing and replacing the existing standpipe alternative is selected).
3. Replace the John Street 150 mm diameter cast iron watermain from Waterloo Street to Queen Street, as part of a road reconstruction project.
4. Construct a 300 mm diameter watermain on the future Moynihan Place to service new industrial lots.
5. Extend the 300 mm diameter Industrial Drive watermain from Moynihan Place to Coral Lee Drive to service new industrial lots.
6. Extend the 250mm dia. Birmingham Street watermain from east of Church Street to west of London Road.
7. As part of Phase 1 of the Avila subdivision, replace the existing South Water Street watermain from the proposed S.P.S. to the southwestern end of the street,

and extend it through the unopened road allowance and into the subdivision lands.

8. Continue replacing old cast iron and small diameter (<150 mm) watermains, typically as part of progressively completing street reconstruction within the community, or in accordance with priorities due to increased breakage rates or other problems with specific sections of this old watermain. As a minimum, match the existing watermain size, except no smaller than 150 mm in diameter. Consider replacing the northerly Egremont Street and one leg of the Byeland Drive watermain using 250 mm diameter watermains, to finish the Egremont Street trunk watermain looping to Sligo Road (or else via a Durham-Fergus Street route). Consider replacing the Dublin Street watermain using 250 mm diameter watermains to improve fire flows to the institutional locations at/near Princess Street (hospital, seniors/nursing home, medical clinic).
9. Replace the existing 150 mm diameter watermain road crossing at the Queen/Cork Street intersection with 300 mm diameter watermain the next time road work is completed on Queen Street.
10. Complete an overview of hydrant locations with the Fire Department and determine where additional fire hydrants are needed to achieve target operational fire flows based on land uses within the community.
11. Consider increasing the frequency of sampling and testing Well No. 5 for sodium and chloride to look for trends.
12. Consider increasing the frequency of sampling and testing Well No. 6 for sulphate and hydrogen sulphide to look for trends.
13. Upgrade the well pumphouses with flow-paced chlorine metering pumps, to avoid low chlorine alarm conditions that occur during large watermain break situations, and that require flushing and sampling to reinstate the affected well supply.

Projects 1 through 13 were pulled directly from the Mount Forest Sanitary and Water Servicing Technical Update (2021) report; refer to Figure 4.6 and Appendix E in the report. The costing information presented in this review comprises the estimated construction costs as at the time of completion of the Technical Update report (2021).

The following major water servicing projects have been identified for Mount Forest in the Township's 10-year Capital Project Forecast:

- A new water tower in Mount Forest in the north end of the urban centre (2028).

5.1.1.5 Future Wastewater Systems

Arthur

Hydraulic capacity of the sewers may be exceeded due to the Future Development sites in the south based on sewer routing. Therefore, servicing of the future residential and highway commercial developments needs to be reviewed to optimize existing sewer capacity. The effect of the development areas on the sewer hydraulics was analyzed independently of each other. The proposed plant expansion will have sufficient capacity to treat sewage until the year 2045. It is also expected that the Phase 2 expansion should be implemented to keep pace with development as there is currently a sewage capacity constraint for developments in Arthur.

The Township has considered next steps related to future development on lands in the north area of Arthur that are currently identified to remain designated Future Development at this time (not identified to be re-designated in the County of Wellington O.P.A. 123). A significant concern/constraint will be sewage treatment capacity at the existing Arthur Wastewater Treatment Plant (W.W.T.P.). The additional capacity resulting from this is not significant (i.e., ~400 ERU) when compared to the developments being proposed. As such, a further expansion of the wastewater treatment system within Arthur will be required to support this and other future developments. To this end, the Township is proposing a Class Environmental Assessment. A project to investigate a further expansion of the wastewater treatment system. This will be a Township project that will be included in the next development charge background study and by-law. Updates regarding this project will be provided as available.

The following major wastewater servicing projects have been identified for Arthur in the Township's 10-year Capital Project Forecast:

- A Phase 2 expansion/plant upgrade of the Arthur W.W.T.P.

Mount Forest

The existing W.W.T.P. has an additional capacity of 917 m^3/day according to the 2024 Mount Forest R.C.C. This additional capacity will not be met by 2051 based on the updated growth forecasts for Mount Forest. There is, however, only a surplus capacity of 237 m^3/day by 2051; therefore, there is capacity to accommodate growth beyond this

planning horizon. The following projects are recommended by the Mount Forest Technical Update to support the future wastewater system:

1. Complete the W.W.T.P. Receiver Impact Assessment and obtain approval for increasing the operational capacity of that plant to 3,500 m^3/day.
2. Conduct an additional evaluation on the Cork Street S.P.S. to determine actual peak sewage inflow rate and reserve pumping capacity.
3. Conduct an additional evaluation on the North Water Street S.P.S. to establish the actual non-wet weather peak flow rate and to confirm if the W.W.T.P. can accept the high flow periods.
4. Prior to proceeding with any easterly extension of the Sligo Road sanitary sewer, complete a survey and evaluate the possibility of gravity servicing east past the tributary to Fairbanks Creek.
5. Replace the 200 mm diameter sanitary sewer on John Street, from Waterloo Street to Queen Street, as part of a street reconstruction project.
6. Construct a 200 mm diameter sanitary sewer on the future Moynihan Place located within the existing Industrial Drive area, to service new industrial lots.
7. Extend the 300 mm diameter Industrial Drive sanitary sewer, from Moynihan Place to Coral Lea Drive, and along Coral Lea Drive to the new elevated water storage tank (if this is the selected storage alternative), to service new industrial lots.
8. Construct the new South Water Street S.P.S., dependent on developer schedules.
9. As part of Phase 1 of the Avila subdivision, construct a 250 mm diameter sanitary sewer complete with services on South Water Street, from the South Water Street S.P.S. site southwesterly past the western end of the existing street and into the subdivision lands. This work is to be completed by the developer. There may be some cost sharing with the Township.
10. Continue replacing old sanitary sewers in concert with cast iron and small diameter (<150 mm) watermain replacement activities.

Projects 1 through 10 were pulled directly from the Mount Forest Sanitary and Water Servicing Technical Update (2021) report, as identified in Appendix E in the report. The costing information presented in this review comprises the estimated construction costs as at the time of completion of the Technical Update report (2020).

The following major wastewater servicing projects have been identified for Mount Forest in the Township's 10-year Capital Project Forecast:

- An upgrade (re-rating) to the Mount Forest W.W.T.P. (2031).

5.1.1.6 Overall Conclusions

Overall, it is recommended that the Township consider secondary or master planning for new greenfield areas in Arthur and Mount Forest before development takes place. This would also explore a phasing and staging plan that would ensure the orderly development of greenfield land that is aligned with infrastructure.

5.1.2 Transportation Review

Wellington North's transportation network is shaped by Highway 89 forming most of the northern boundary, County Road 109 forming a portion of the southern boundary, and Highway 6 acting as the main north-south axis.

5.1.3 Approach

This analysis examines both existing and future traffic conditions, taking into account the available data and designated land supply in both Arthur and Mount Forest.

5.1.4 Future Needs

The population of the Township is expected to grow by approximately 48% to 20,400 by the year 2051. The employment in the area is also expected to grow by 38% to 10,500 by the same year. The growth is expected to occur mainly in the urban areas of Mount Forest and Arthur. The forecast growth will generate trips that will impact the vehicle traffic volumes in the Township, especially along Highway 6 through the two urban areas of Arthur and Mount Forest, which has already been highlighted as a heavily travelled corridor.

The estimated trips from the proposed growth are assigned to the roadway based on the above traffic distribution on the Township's roadway network. The trips from the future growth are assumed to likely use Main Street, Mount Forest (Highway 6), and Smith Street and George Street, Arthur (Highway 6). As previously highlighted, these two roadway sections were identified as the heavily travelled corridors that experience roadway congestion in the study area. Based on the trip distribution and total trips, it is

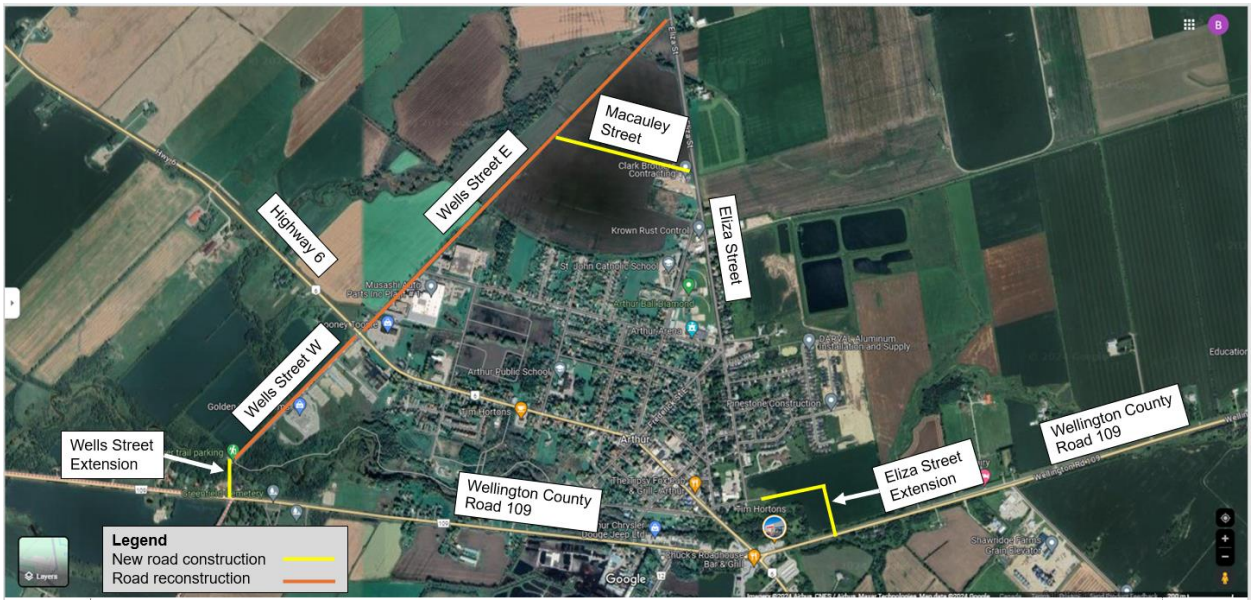
estimated that Smith Street could have an additional 14,500 daily trips and Main Street could have an additional 11,900 daily trips by the year 2051. This could theoretically increase the total daily traffic along Smith Street and George Street to approximately 40,300 (a 56% increase) and 29,200 (a 68% increase) on Main Street by the year 2051. These volumes are not sustainable or desirable on these streets and additional road network infrastructure will be required to help accommodate growth.

The land identified for development was reviewed considering the existing road network. Opportunities were identified to accommodate the forecast growth by providing additional or improved connectivity, connecting missing links by formalizing gravel or tar roads as paved roads, and enabling alternate routes to reduce the strain of vehicles on the main streets of Arthur and Mount Forest. The following improvements were identified for Arthur:

i. Extend Wells Street West to connect to Wellington County Road 109.
ii. Improve Wells Street west of Highway 6 to 2-lane paved roadways constructed per design standards.
iii. Construct a 2-lane Wells Street East from Highway 6 to Eliza Street.
iv. Construct Macauley Street between Wells Street East and Eliza Street.
v. Extend Eliza Street south to connect to Wellington Road 109.

These are illustrated in Figure 17.

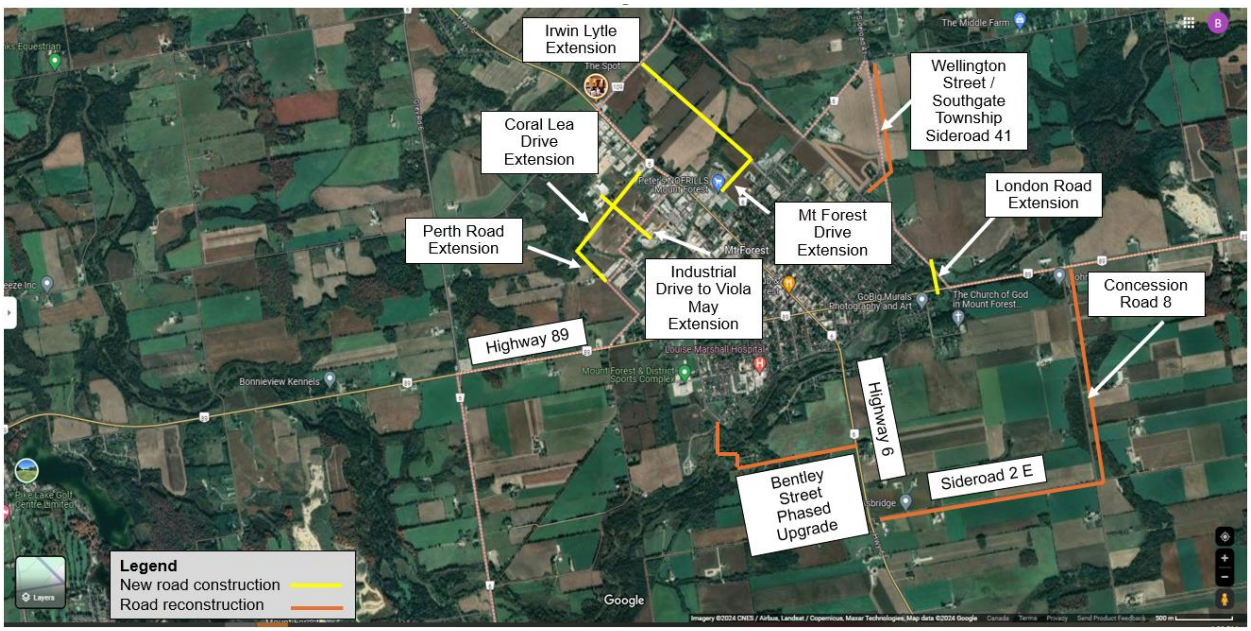
Figure 17
Recommended Road Network Improvements to Accommodate
Forecast Growth in Arthur



The same exercise was undertaken for Mount Forest, and the recommended road network improvements to accommodate growth are shown in Figure 18 and include:

i. Extension of London Road south of Albert Street to connect to Highway 89.
ii. Extension of Industrial Drive to Viola May Crescent.
iii. Extension of Coral Lea Drive to the new extension of Industrial Drive.
iv. Extension of Mount Forest Drive to Irwin Lytle Drive.
v. Extension of Irwin Lytle Drive to Grey Road 109.
vi. Extension of Perth Road to Coral Lea Drive.
vii. The Bentley Street Phased Upgrade:
    (1) Bentley Street to Silver Street;
    (2) Silver Street to Mill Street;
    (3) Mill Street to Martin Street.
viii. Improvement of the following roadways to 2-lane paved roadways constructed per design standards:
    (1) Wellington Street/Southgate Township Sideroad 41 between London Road and Southgate Township Road 4.
    (2) Concession Road 8 between Highway 89 and Sideroad 2 E.
    (3) Sideroad 2 E between Highway 6 and Concession Road 8.

Figure 18
Recommended Road Network Improvements to Accommodate
Forecast Growth in Mount Forest



The findings of the future traffic analysis indicate that there will be increased traffic volumes on the main streets of both Arthur and Mount Forest. Alternate routes to Highway 6 (which becomes the main street in both of these communities) needs to be provided for local traffic in the Arthur and Mount Forest areas to help mitigate increasing traffic volumes on Highway 6 through the communities.

5.1.4.1 Overall Conclusions

Overall, it is recommended that the Township develop a Transportation Master Plan (including roadway, open and unopen road allowances, sidewalks, and trails), specifically a "Mobility Master Plan" that includes planning for all forms of mobility. The Strategic Directions (Chapter 6) provide further recommendations on improving mobility needs within the Township.

5.2 Municipal Fiscal Analysis

5.2.1 Overview

As part of the Growth Management Action Plan, a fiscal analysis has been undertaken to assess the impacts of the proposed residential and non-residential growth on the Township. This analysis examines the following:

- potential assessment values of the residential and non-residential forecast;
- potential property tax and non-tax revenues;
- additional operating expenditures;
- estimated lifecycle costs based on the capital information presented in the 2022 Development Charges Background Study; and
- a calculation of the potential surplus (or deficit) that the proposed developments will generate for the Township based on the above.

It should be noted that the analysis contained herein does not include an assessment of future capital infrastructure that would be required to 2051. While section 5.1 of this report describes the potential water, wastewater, and transportation projects that the Township should consider, the costing information associated to these works are not available at this time. Furthermore, the internal infrastructure (local roads, sidewalks, internal watermains, internal sewermains, parks, etc.) that would be required to be constructed within these developments are unknown. The fiscal impact will need to be updated subsequent to the development of these capital costs, which will impact the overall surplus/deficit figures that the proposed growth will have on the Township.

Additionally, it is recommended that the Township undertake a new Development Charges (D.C.) study once the infrastructure projects and associated costs are identified. This will allow the Township to collect the appropriate D.C. revenues to fund the required growth-related works.

5.2.2 Approach

The approach utilized in the financial analysis is consistent with the methodology devised by the firm and used for over 36 years to evaluate fiscal impact for more than three dozen landowners, the Ministry of Municipal Affairs, the Ontario Land Corporation, Canada Mortgage and Housing Corporation (C.M.H.C.), and municipalities such as (but

not limited to) Oakville, Burlington, Halton Hills, Caledon, York Region, East Gwillimbury, Collingwood, Durham Region, Pickering, Haldimand-Norfolk, Halton Region, Georgian Bay Township, and Cavan Monaghan.

Essentially, the methodology involves an operating and capital cost analysis. The operating cost analysis involves calculating the municipality's tax calculation with the addition of the proposed residential and non-residential forecast. Note that for the purposes of this analysis, the 2022 Financial Information Return (F.I.R.) data was used as it provides the most up to date data on actual spending and received revenues for the Township. For the evaluation, revenues and expenditures attributable to the forecasted development are estimated on an incremental basis. That is, revenue and expenditure dollars are assigned to the project, only in accordance with anticipated variations it would create from the 2022 base year, if it had been built out, as of that time. Sunk costs are ignored and service levels are planned as remaining generally constant.

As described earlier, the capital cost analysis has been excluded at this time due to the lack of costing information.

5.2.3 Proposed Developments and Assessment Values

Based on the 2024 to 2051 growth forecast information presented in Chapter 3, the Township is estimated to grow by 2,385 residential units, which equate to approximately 6,600 people. With respect to non-residential growth, the Township is estimated to grow by 2,045 employees, which equates to approximately 2.2 million square feet of non-residential gross floor area. Figures 19 and 20 provides the residential and non-residential summaries by type.

Figure 19
Residential Incremental Growth Summary

Type Of Units	Units Increment Number of Units	Population Increment
Single/Semi Detached	1,696	5,253
Townhomes	420	838
Apartments	269	463
Total	**2,385**	**6,554**

Figure 20
Non-Residential Incremental Growth Summary

Type of Development	Sq.ft. Increment Number of Sq.ft.	Estimated Employment
Industrial	1,596,000	1,140
Commercial / Institutional	427,500	855
Primary	175,000	50
Total	**2,198,500**	**2,045**

As the new developments are constructed, the Township will receive additional assessment arising from the completion of the units. Figure 21 provides for the estimated new assessment to be generated from the development. The assessment values presented herein are calculated based on MPAC's database, which are still based on the 2016 full phased-in values. The steps undertaken are as follows:

- The average assessment values for single detached homes, semi-detached homes, townhomes, and apartments from municipalities throughout Wellington County were applied.
- The assessment values for commercial and industrial buildings were based on businesses throughout Wellington County.
- The assessment values for primary (farms) are based on 50% of the industrial buildings.
- The total assessment value (which will form the basis for the property tax revenue estimate) was calculated using the estimated average assessment per unit multiplied by the number of units for each development type.

Figure 21
Estimated Assessment Values

Residential

Type Description	Average Assessment per Unit	Number of Units	Assessed Value
Single/Semi Detached	395,000	1,696	$669,920,000
Townhomes	315,000	420	$132,300,000
Apartments	313,000	269	$84,197,000
Total		**2,385**	**$886,417,000**

Information above based on MPAC Assessments within Wellington County

Non-residential

Type Description	Average Assessment per Sq.ft.	Est. GFA	Assessed Value
Industrial	45.00	1,596,000	$71,820,000
Commercial / Institutional	75.00	427,500	$32,062,500
Primary	22.50	175,000	$3,937,500
Total		**2,198,500**	**$107,820,000**

Information above based on MPAC Assessments within Wellington County
Note: Primary Assessment is assumed to be 50% of Industrial

5.2.4 Impact on the Township's Operating Budget

This section examines the potential impact of the buildout of the 2051 incremental residential and non-residential developments on the Township's operating budget. This is done by examining the revenue and expenditure implications separately, and then together with reference to net operating position.

An additional analysis has been carried out to include an annual lifecycle contribution from capital projects identified in the 2022 D.C. study. This assessment assumes a similar cost per capita and per employee for growth-related infrastructure works from the 2022 D.C. study and applies it to these future developments.

5.2.4.1 Operating Expenditure Implications

Figure 22 summarizes the Township's "Revenue Fund" or "Operating Fund" transactions for 2022 (based on the Township's Financial Information Return (F.I.R.)). This represents a simple "model" of the Township's financial position for the operating fund and provides the structure of the financial impact analysis contained in this chapter.

Figure 23 modifies the operating expenditures shown in Figure 22 by netting “Interest on Long Term Debt”, “External Transfers”, and “Amortization” from the total. The debt charges are for “sunk” investments, unaffected by growth. The external transfers can vary significantly from year to year and relate largely to capital expenditures and general reserves, which are addressed separately in this analysis. Further, amortization is an accounting allocation which seeks to capture annual replacement costs. As this is based on historical costs, a separate analysis on lifecycle expenditures (based on future replacement cost) is required. It is therefore appropriate to remove these three classes of expenditures from the spending base, before determining incremental loss and/or average operating fund spending levels per capita and employee.

Figure 24 allocates the Township’s existing operating expenditure components between the needs of residential development and non-residential development, based on differences in the amount of such development and the need for particular types of services in each case. The expenditure allocation is then presented on a per household/per employee basis. The expenditures are divided between residential and non-residential development based on varying proportions for each service. Most expenditures have been shared on a population-to-employment basis. As the 2024 population is estimated to be 13,800 and employment is 5,240, these costs are split approximately 72%/28%. For parks and recreation and cemeteries, a minor allocation has been provided to non-residential development which acknowledges some usage by the non-residential sector (5%).

Figure 25 assesses each of the Township’s key tax-supported service components in relation to the proposed development to determine how the operating costs are likely to be impacted based on the characteristics and location of the developments.

Figure 22
Summary of Consolidated Expenditures and Revenues
2022 F.I.R. Data ('000's $)

Summary of Consolidated Expenditures and Revenues	General Levy
1. GROSS EXPENDITURES	
1.1 General Government	1,362.5
1.2 Fire	1,056.3
1.3 Protective Inspection and Control	678.8
1.4 Building Permit and Inspection Services	5.7
1.5 Emergency Measures	44.7
1.6 Roadways & Winter Control	7,022.7
1.7 Street Lighting	117.6
1.8 Wastewater Collection/Conveyance	1,578.8
1.9 Wastewater Treatment & Disposal	1,253.7
1.10 Water Treatment	1,616.7
1.11 Cemeteries	123.4
1.12 Parks	180.5
1.13 Recreation Facilities	2,137.3
1.14 Planning and Zoning	195.1
1.15 Commercial and Industrial	637.7
Total Gross Expenditures	**18,011.6**
2. REVENUES	
2.1 Payment in Lieu of Taxes	164.6
2.2 Unconditional Grants	1,300.6
2.3 Specific Grants	2,865.5
2.4 Revenue from Other Municipalities	111.1
2.5 Total User Fees and Service Charges	6,200.4
2.6 Licenses, Permits, Rents etc.	912.9
2.7 Fines and Penalties	152.9
2.8 Investment Income	750.0
2.9 Gain/Loss on sale of land & Capital Assets	200.4
2.10 Deferred Revenue Earned	95.5
2.11 Donations & Donated Tangible Capital Assets	52.2
2.12 Other Revenues from Government Business Enterprise	536.0
2.13 Other: Other Revenue	74.3
2.14 Total of all supplementary taxes (Supps, Omits, Section 359)	553.0
2.15 Business improvement area	30.0
2.16 (Surplus) / Deficit	(4,258.8)
Total Revenues	**9,740.6**
NET EXPENDITURES	**8,271.0**
3. PROPERTY TAXATION	**8,271.0**

Figure 23
Summary of Net Operating Expenditures (2022 F.I.R. Data)

Category	Total Gross Expenditures	Interest on Long Term Debt	External Transfers	Amortization	Net Operating Expenditures
1.1 General Government	1,362,506	-	-	92,717	1,269,789
1.2 Fire	1,056,286	-	-	224,085	832,201
1.3 Protective Inspection and Control	678,758	-	178,152	-	500,606
1.4 Building Permit and Inspection Serv	5,722	-	-	-	5,722
1.5 Emergency Measures	44,701	-	-	-	44,701
1.6 Roadways & Winter Control	7,022,687	-	-	3,618,071	3,404,616
1.7 Street Lighting	117,604	-	-	21,695	95,909
1.8 Wastewater Collection/Conveyance	1,578,846	193,524	-	-	1,385,322
1.9 Wastewater Treatment & Disposal	1,253,712	-	-	1,253,712	-
1.10 Water Treatment	1,616,657	-	-	392,728	1,223,929
1.11 Cemeteries	123,442	-	-	1,341	122,101
1.12 Parks	180,522	-	-	-	180,522
1.13 Recreation Facilities	2,137,325	-	-	463,736	1,673,589
1.14 Planning and Zoning	195,123	-	-	-	195,123
1.15 Commercial and Industrial	637,691	-	-	-	637,691
TOTAL	**18,011,582**	**193,524**	**178,152**	**6,068,085**	**11,571,821**

Note: the water and wastewater information presented in Figure 23 is for illustrative purposes to summarize the total operating expenditures within the Township. The water and wastewater impacts have not been assessed at this time.

Figure 24
Average Cost per Capita and per Employee (2022 F.I.R. Data)

Category	Total Net Operating Expenditure	Residential Share		Cost Per Capita	Non-Residential Share		Cost Per Employee
		%	$		%	$	
1. Expenditures							
1.1 General Government	1,269,789	72%	920,330	66.69	28%	349,459	66.69
1.2 Fire	832,201	72%	603,171	43.71	28%	229,030	43.71
1.3 Protective Inspection and Control	500,606	72%	362,834	26.29	28%	137,772	26.29
1.4 Building Permit and Inspection Service	5,722	72%	4,147	0.30	28%	1,575	0.30
1.5 Emergency Measures	44,701	72%	32,399	2.35	28%	12,302	2.35
1.6 Roadways & Winter Control	3,404,616	72%	2,467,631	178.81	28%	936,985	178.81
1.7 Street Lighting	95,909	72%	69,514	5.04	28%	26,395	5.04
1.11 Cemeteries	122,101	95%	115,996	8.41	5%	6,105	1.17
1.12 Parks	180,522	95%	171,496	12.43	5%	9,026	1.72
1.13 Recreation Facilities	1,673,589	95%	1,589,910	115.21	5%	83,679	15.97
1.14 Planning and Zoning	195,123	72%	141,423	10.25	28%	53,700	10.25
1.15 Commercial and Industrial	637,691	0%	0	0.00	100%	637,691	121.70
TOTAL	**8,962,570**		**6,478,851**	**469.49**		**2,483,719**	**474.00**

Current Year Population (Includes Undercount)	13,800	72%
Current Year Employment (Exclude WAH and NFPOW)	5,240	28%

Figure 25
Operating Expenditures – Growth Sensitivity Analysis (Tax Supported – 2022$)

Expenditure Category	RESIDENTIAL			NON-RESIDENTIAL		
	Net Expenditure per Capita	Growth Share %	Net Expenditure Recast	Net Expenditure per Employee	Growth Share %	Net Expenditure Recast
1.1 General Government	66.69	50%	33.35	66.69	50%	33.35
1.2 Protection to Person and Property						
1.2.1 Fire	43.71	100%	43.71	43.71	100%	43.71
1.2.2 Protective Inspection and Control	26.29	100%	26.29	26.29	100%	26.29
1.2.3 Building Permit and Inspection Service	0.30	100%	0.30	0.30	100%	0.30
1.2.4 Emergency Measures	2.35	100%	2.35	2.35	100%	2.35
1.3 Transportation Services						
1.3.1 Roadways & Winter Control	178.81	75%	134.11	178.81	75%	134.11
1.3.2 Street Lighting	5.04	75%	3.78	5.04	75%	3.78
1.4 Health Services						
1.4.1 Cemeteries	8.41	50%	4.21	1.17	50%	0.59
1.5 Recreation and Cultural Services						
1.5.1 Parks	12.43	75%	9.32	1.72	75%	1.29
1.5.2 Recreation Facilities	115.21	100%	115.21	15.97	100%	15.97
1.6 Planning and Development						
1.6.1 Planning and Zoning	10.25	100%	10.25	10.25	100%	10.25
TOTAL	**469.49**		**382.88**	**474.00**		**393.69**

The “Growth Share %” column denotes a particular percentage factor in each case. This factor reflects any variation from the current overall average per household expenditure level, which is called for in dealing with a development increment. For instance, if the average existing expenditure for a service is $100 per capita, economies of scale or other efficiencies, may indicate that service costs for the growth increment alone are likely to be lower than average, say 90% (or $90 per capita), while being unaltered for the base population. This determination has been based on analysis of the municipality’s budget, discussions with Township staff, practices elsewhere, and the consultant’s experience. The provisions made are considered to be adequate with respect to the proposed developments and existing service capacity in the Township.

These percentage attributions are used to compute average incremental operating costs per household and per employee, which is reflected in the “Net Expenditure” column. The per household and employee expenditure averages are utilized, subsequently, to estimate the incremental expenditure requirement generated by growth.

Based on the analysis provided in Figure 25, the forecast of annual expenditures has been undertaken. Figure 26 provides for the per household and per employee amount

multiplied by the assumed growth take-up as provided in Figures 19 and 20. The total line provides for the product of this calculation.

Figure 26
Operating Expenditures Summary (Tax Supported – 2022$)

CATEGORY	Cost Per Capita	Cost Per Employee	Incremental Expenditures (2022$)
1. Expenditures			
1.1 General Government	33.35	33.35	286,777
1.2 Fire	43.71	43.71	375,862
1.3 Protective Inspection and Control	26.29	26.29	226,068
1.4 Building Permit and Inspection Services	0.30	0.30	2,580
1.5 Emergency Measures	2.35	2.35	20,208
1.6 Roadways & Winter Control	134.11	134.11	1,153,212
1.7 Street Lighting	3.78	3.78	32,504
1.11 Cemeteries	4.21	0.59	28,799
1.12 Parks	9.32	1.29	63,721
1.13 Recreation Facilities	115.21	15.97	787,745
1.14 Planning and Zoning	10.25	10.25	88,140
1.15 Commercial and Industrial	-	121.70	248,877
TOTAL	**382.88**	**393.69**	**3,314,492**

5.2.4.2 Operating Revenue Implications

Figure 27 sets out the 2022 non-tax revenues for the Township as outlined in Figure 22. The figure distinguishes the revenues by service specific revenues (defined as being directly related to individual programs) and those being of a general nature.

Figure 28 assesses the 2022 non-tax revenues as to those which may be directly affected by growth. Generally, any unconditional grants and subsidies have been eliminated and the residual amounts are assessed as to their applicability to growth. The costs are then allocated between the population and employees to provide a per capita and per employee revenue.

Figure 29 assesses the estimated proportionate share of growth in a similar manner as provided in Figure 26. Figure 30 then determines the forecast non-tax revenue to be generated annually based on the buildout of the incremental growth to 2051 provided in Figures 19 and 20.

Figure 27
Operating Revenue Summary (2022$)

CATEGORY	NON-TAX OPERATING REVENUES (2022$)							
	Ontario Conditional Grants	Canada Conditional Grants	Other Municipalities	User Fees and Service Charges	Ontario Grants - Tangible Capital Assets	Canada Grants - Tangible Capital Assets	User Fees, Service Charges, and Grants	Total Revenue - FIR
2. Revenues								
2.1 Service Specific Non-Tax Revenues								
General Government	-	2,100	-	10,028	-	-	12,128	12,128
Fire	-	-	101,050	-	-	-	-	101,050
Roadways & Winter Control	28,017	4,200	-	57,332	2,760,399	-	89,549	2,849,948
Wastewater Collection/Conveyance	-	-	-	2,837,951	-	-	2,837,951	2,837,951
Water Treatment	-	-	-	2,401,711	-	-	2,401,711	2,401,711
Cemeteries	-	-	-	62,082	-	-	62,082	62,082
Recreation Facilities	-	28,846	10,000	567,789	-	-	596,635	606,635
Planning and Zoning	-	-	-	252,885	-	-	252,885	252,885
Commercial and Industrial	28,000	13,900	-	10,648	-	-	52,548	52,548
2.2 Other Non-Tax Revenues								
Payment in Lieu of Taxes								164,558
Unconditional Grants								1,300,600
Specific Grants								2,865,462
Revenue from Other Municipalities								111,050
Total User Fees and Service Charges								6,200,426
Licenses, Permits, Rents etc.								912,852
Fines and Penalties								152,908
Investment Income								749,998
Gain/Loss on sale of land & Capital Assets								200,442
Deferred Revenue Earned								95,535
Donations & Donated Tangible Capital Assets								52,220
Other Revenues from Government Business Enterprise								535,976
Other: Other Revenue								74,288
Total of all supplementary taxes (Supps, Omits, Section 359)								553,046
Business improvement area								30,000
(Surplus) / Deficit								(4,258,802)
TOTAL	**56,017**	**49,046**	**111,050**	**6,200,426**	**2,760,399**	**-**	**6,305,489**	

Note: the water and wastewater information presented in Figure 27 is for illustrative purposes to summarize the total operating revenues within the Township. The water and wastewater impacts have not been assessed at this time.

Figure 28
Non-Tax Operating Revenue Summary – Average Revenue Per Capita and Per Employee (2022$)

CATEGORY	Total Net Operating Revenue and Grants	Residential Share		Revenue Per Capita	Non-Residential Share		Revenue Per Employee[2]
		%	$		%	$	
2. Revenues							
2.1 Service Specific Non-Tax Revenues							
General Government	12,128	72%	8,790	0.64	28%	3,338	0.64
Roadways & Winter Control	89,549	72%	64,904	4.70	28%	24,645	4.70
Cemeteries	62,082	95%	58,978	4.27	5%	3,104	0.59
Recreation Facilities	596,635	95%	566,803	41.07	5%	29,832	5.69
Planning and Zoning	252,885	72%	183,289	13.28	28%	69,597	13.28
Commercial and Industrial	52,548	0%	-	-	100%	52,548	10.03
2.2 Other Non-Tax Revenues							
Payment in Lieu of Taxes	164,558	n/a	-	-	n/a	-	-
Unconditional Grants	1,300,600	n/a	-	-	n/a	-	-
Specific Grants[1]	2,865,462	n/a	-	-	n/a	-	-
Revenue from Other Municipalities	111,050	n/a	-	-	n/a	-	-
Total User Fees and Service Charges[1]	6,200,426	n/a	-	-	n/a	-	-
Licenses, Permits, Rents etc.	912,852	72%	661,626	47.94	28%	251,226	47.94
Fines and Penalties	152,908	72%	110,826	8.03	28%	42,082	8.03
Investment Income	749,998	72%	543,591	39.39	28%	206,407	39.39
Gain/Loss on sale of land & Capital Assets	200,442	n/a	-	-	n/a	-	-
Deferred Revenue Earned	95,535	n/a	-	-	n/a	-	-
Donations & Donated Tangible Capital Assets	52,220	n/a	-	-	n/a	-	-
Other Revenues from Government Business Enterprise	535,976	n/a	-	-	n/a	-	-
Other: Other Revenue	74,288	72%	53,843	3.90	28%	20,445	3.90
Total of all supplementary taxes (Supps, Omits, Section 3	553,046	n/a	-	-	n/a	-	-
Business improvement area	30,000	n/a	-	-	n/a	-	-
(Surplus) / Deficit	(4,258,802)	n/a	-	-	n/a	-	-
TOTAL	**10,806,386**	**-**	**2,252,651**	**163.22**	**-**	**703,223**	**134.19**

Current Year Population (Includes Undercount)	13,800
Current Year Employment (Exclude WAH and NFPOW)	5,240

1 Specific grants and Total User Fees and Service Charges have been incldued in section 2.1 above

Figure 29
Non-Tax Operating Revenue – Growth Sensitivity Analysis (Tax Supported – 2022$)

REVENUE CATEGORY	RESIDENTIAL			NON-RESIDENTIAL		
	Net Revenue per Capita	Growth Share %	Net Revenue Recast	Net Revenue per	Growth Share %	Net Revenue Recast
2.1 Service Specific Non-Tax Revenues						
General Government	0.64	50%	0.32	0.64	50%	0.32
Roadways & Winter Control	4.70	75%	3.53	4.70	75%	3.53
Cemeteries	4.27	50%	2.14	0.59	50%	0.30
Recreation Facilities	41.07	100%	41.07	5.69	100%	5.69
Planning and Zoning	13.28	100%	13.28	13.28	100%	13.28
Commercial and Industrial	-	0%	-	10.03	100%	10.03
Sub-total	63.96		60.34	34.93		33.15
2.2 Other Non-Tax Revenues						
Licenses, Permits, Rents etc.	47.94	100%	47.94	47.94	100%	47.94
Fines and Penalties	8.03	100%	8.03	8.03	100%	8.03
Investment Income	39.39	100%	39.39	39.39	100%	39.39
Other: Other Revenue	3.90	50%	1.95	3.90	50%	1.95
Sub-total	**99.26**		**97.31**	**99.26**		**97.31**
TOTAL	**163.22**		**157.65**	**134.19**		**130.46**

Figure 30
Non-Tax Operating Revenue Summary (Tax Supported – 2022$)

CATEGORY	Revenue Per Capita	Revenue Per Employee	Incremental Revenues (2022$)
2. Revenues			
2.1 Service Specific Non-Tax Revenues			
General Government	0.32	0.32	2,752
Roadways & Winter Control	3.53	3.53	30,354
Cemeteries	2.14	0.30	14,639
Recreation Facilities	41.07	5.69	280,809
Planning and Zoning	13.28	13.28	114,195
Commercial and Industrial	-	10.03	20,511
2.2 Other Non-Tax Revenues			-
Licenses, Permits, Rents etc.	47.94	47.94	412,236
Fines and Penalties	8.03	8.03	69,050
Investment Income	39.39	39.39	338,715
Other: Other Revenue	1.95	1.95	16,768
TOTAL	**157.65**	**130.46**	**1,300,029**

5.2.4.3 Taxation Revenue

Based on the Weighted Assessment Increment calculations provided in Figure 21, a forecast of the taxation revenue to be generated at buildout was undertaken using the 2024 tax rates (note: while the FIR data is based on 2022$, the Township requested that the 2024 tax rates be utilized for the purposes of this section). Figure 31 provides for this calculation at buildout. In undertaking this calculation, it is recognized that the undeveloped properties located throughout the Township (which are the assumed existing farmland areas that will be the future site of the residential and non-residential developments) do currently pay property taxes to the Township, which is estimated at $12,411 (based on the current assessment and 2024 farm tax rate). The existing property tax amount has been netted from the estimated taxation revenue estimate to establish the additional taxation revenue increment.

Figure 31
Property Tax Revenue

Property Tax Classes		Municipal Property Tax Revenue (2024$)
1. Property Tax[1]		
Residential Growth		
Residential Assessment (RT)		*886,417,000*
Property Tax Revenue	**0.5559%**	4,927,982
Total Residential Property Tax Revenue		4,927,982
Non-residential Growth		
Commercial Assessment (CT)		*32,062,500*
Property Tax Revenue	**0.8289%**	265,770
Total Commercial Property Tax Revenue		265,770
Non-residential Growth		
Industrial Assessment (IT)		*71,820,000*
Property Tax Revenue	**1.3343%**	958,270
Total Industrial Property Tax Revenue		958,270
Non-residential Growth		
Farmland Assessment (FT)		*3,937,500*
Property Tax Revenue	**0.1390%**	5,473
Total Industrial Property Tax Revenue		5,473
Less Existing Property Tax Revenue		12,411
TOTAL PROPERTY TAX REVENUE		**6,145,084**

[1] Tax Rates (2024)	General Tax Rate
2024 Residential Tax Rate (RT)	0.5559%
2024 Multi-Residential Tax Rate (MT)	1.0563%
2024 Commercial Tax Rate (CT)	0.8289%
2024 Industrial Tax Rate (IT, IH, JT)	1.3343%
2024 Farmlands and Managed Forest Tax Rate (FT)	0.1390%

5.2.4.4 Lifecycle Analysis

Infrastructure that is constructed or assumed by the Township will require replacement at the end of their useful life. This replacement of capital is often referred to as asset management or lifecycle cost. The method selected in this analysis to assess future

asset replacement costing is the sinking fund method which provides that money will be contributed annually and invested, so that those funds will grow over time to equal the amount required for future replacement.

Figures 32 and 33 provides for an analysis of the residential and non-residential indirect lifecycle costs, within the context of the capital identified in the Township's 2022 D.C. study. The D.C. study identified a forecasted growth of 4,403 population / 1,459 employment in the Township to 2041. Given that the growth forecast contained within this report is to 2051, the Township's D.C. study will need to be updated to reflect the new growth forecast and potentially new infrastructure costs.

The annual lifecycle contribution amounts have been divided by their respective forecast period populations to generate a per capita/per employee cost by service (the residential and non-residential splits are based on the Township's D.C. Study). These per capita and per employee costs have been multiplied by the proposed development's population forecast of 6,554 people and 2,045 employees, respectively.

The analysis herein only provides for the D.C. related lifecycle costs. The Township will need to assess the impacts of the internal capital works that will be constructed as part of the proposed residential and non-residential developments.

Note: The analysis in Figures 32 and 33 are with respect to non-water/wastewater assets only. As stated earlier, the impacts related to water and wastewater have not been assessed at this time.

Figure 32
Indirect Annual Lifecycle Costs (Residential)

Service	Annual Lifecycle Contribution	Annual Lifecycle Contribution (Residential)	D.C. Forecast Population	Annual Lifecycle Contribution Per Capita	Proportionate Share of Annual Lifecycle costs for the 2051 Residential Growth (6,554 people)
Roads and Related	123,215	88,715	4,403	20.15	132,054
Fire Protection Services	2,550	1,836	2,124	0.86	5,665
By-law Services	202	146	2,124	0.07	450
Outdoor Recreation Services	13,569	12,891	2,124	6.07	39,777
Indoor Recreation Services	32,775	31,137	2,124	14.66	96,078
Total - Township-wide Services	**172,312**	**134,724**			**274,024**

Figure 33
Indirect Annual Lifecycle Costs (Non-Residential)

Service	Annual Lifecycle Contribution	Annual Lifecycle Contribution (Non-Residential)	D.C. Forecast Employment	Annual Lifecycle Contribution Per Capita	Proportionate Share of Annual Lifecycle costs for the 2051 Non-Residential Growth (2,045 employees)
Roads and Related	123,215	34,500	1,459	23.65	48,357
Fire Protection Services	2,550	714	1,459	0.49	1,001
By-law Services	202	57	1,459	0.04	79
Outdoor Recreation Services	13,569	678	867	0.78	1,600
Indoor Recreation Services	32,775	1,639	867	1.89	3,865
Total - Township-wide Services	**172,312**	**37,588**			**54,903**

5.2.4.5 Net Operating Impacts to the Township

Figure 34 summarizes the foregoing analysis over a planned forecast period. This table calculates the operating expenditures, indirect lifecycle costs, non-tax revenues and taxation revenues to provide for the net annual financial position.

Figure 34
Summary of the Tax Supported Impacts to the Township

Summary of Fiscal Impact		At Buildout
1.	Revenues	
	1.1 Property Tax	
	Residential Growth	4,927,982
	Non-residential Growth	1,229,513
	Less Existing Property Tax	12,411
	Total Property Tax Revenue	**6,145,084**
	1.2 Non-Tax	
	Residential Growth	1,033,238
	Non-residential Growth	266,791
	Total Non-Tax Revenue	**1,300,029**
	1.3 Total Revenue	
	Residential Growth	5,961,220
	Non-residential Growth	1,496,304
	Less Existing Property Tax	12,411
	Total Revenue	**7,445,113**
2.	Expenditures	
	2.1 Operating	
	Residential Growth	2,509,396
	Non-residential Growth	805,096
	Total Operating Expenditures	3,314,492
	2.2 Lifecycle	
	Broader City-wide Lifecycle Impacts	328,927
	Total Expenditures	**3,643,418**
3.	**Surplus (Deficit)**	**3,801,694**

Based on the results provided in Figure 34, the residential and non-residential developments would provide a net positive contribution to the Township, with an estimated surplus of $3.8 million annually for the tax supported services.

As mentioned in section 5.2.1, the analysis contained herein does not include an assessment of future capital infrastructure that would be required to 2051 due to costing

information currently being unavailable. The fiscal impact will need to be updated subsequent to the development of these capital costs, which will impact the overall surplus/deficit figures presented herein.

Chapter 6
Strategic Growth Directions

6. Strategic Growth Directions

Provided below is a summary of strategic growth directions for the Township in managing growth over the long term. These strategic directions have been organized according to the guiding principles discussed in Chapter 2. The strategic growth directions encompass two types of actions: approaches and initiatives. Approaches are overarching recommended strategies that guide planning and decision-making processes. Initiatives are specific projects and programs implemented to achieve the Township's growth management objectives. The recommended strategic growth directions also identify whether the Township of Wellington North would be leading this approach or initiative, or whether it would be in partnership with the County of Wellington. It is important to recognize that some of the strategic growth directions below are already being carried out by the Township and are included as a recommendation to continue. These tables should be reviewed regularly by Township staff and Council and updated where necessary.

Together as One: Wellington North

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Ensure decisions on accommodating growth are viewed at a Township-wide perspective.	Approach	County/ Township
2. Celebrate and share the Township's history, accomplishments, assets, and community pride.	Approach	Township-Led
3. Explore undertaking a review of the "Township's brand" in marketing the Township and bringing residents and businesses across the Township together.	Initiative	Township-Led

Championing Environmental Stewardship and Protecting Resources for Future Generations

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Integrate climate change considerations with infrastructure and planning decisions. For example, encourage developments to incorporate natural systems into urban development, such as parks and greenspaces that serve as flood control areas. Further information on incorporating Green Standards in development can be considered through the Green Development Standards currently underway by the County of Wellington, a joint initiative with the County of Grey and the County of Dufferin. The Green Development Standards are anticipated to be completed by November 2024.[1]	Approach	County/ Township
2. As part of the planning and development application review, require development to be designed to maximize the retention of existing trees and vegetation, wetlands, riparian and/or other wildlife habitats through greenspaces and green infrastructure.	Approach	County/ Township
3. Commission stormwater studies to obtain the performance metrics required by O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure, specifically the percentage of properties in the municipality resilient to a 100-year storm, and the percentage of the network resilient to a five-year storm.[2]	Initiative	Township-Led

[2] County of Wellington website – Green Development Standards: https://www.wellington.ca/business/planning-development/major-projects/green-development-standards, retrieved August 24, 2024.

[1] A recommendation identified in the Township of Wellington North 2021 Asset Management Plan, Transportation, Stormwater, Water and Wastewater Services, 2021, p. 27.

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
4. Continued to support efforts to increase the vegetation (e.g., trees, shrubs, etc.) within the Urban Centres through any necessary updates to the Township's Municipal Servicing Standards document. Increasing the requirement of vegetation levels will need to consider the appropriate type and level of vegetation based on the development and site context.	Initiative	Township-Led
5. Lead by example – review opportunities for Township operations to be more "green."	Initiative	Township-Led

Supporting Responsible and Sustainable Growth and Infrastructure

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Ensure the phasing, pace, and scale of all new future development will be aligned with the timing of infrastructure delivery in a fiscally and sustainable manner.	Approach	Township-Led
2. The further development of any designated Future Development lands in Mount Forest and Arthur should be directed by a comprehensive planning exercise which considers: community design, transportation, parks and trails, servicing, stormwater management, housing types, commercial needs, and other matters. It is anticipated that the Township will undertake a secondary planning exercise to guide the development of the future development lands once serving has been rationalized and the Township and County are satisfied that there is a need for additional Community Area lands (residential or commercial).	Initiative	Township-Led
3. Expand the Sewage Allocation Policy to include water/wastewater for the Township's Urban Centres to manage and phase	Initiative	Township-Led

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
residential and employment growth to 2051. Policy will provide transparency on growth priorities (balancing residential and non-residential demands and location), what improvements are required, and the timelines.		
4. Continue to plan for the implementation of the Arthur Wastewater Treatment Plant Phase 2 Expansion and cost recovery of the growth-related share of these investments through development charges.	Initiative	Township-Led
5. Develop a Master Stormwater Management Plan based on sub-watershed planning.	Initiative	Township-Led
6. Ensure cost-effective development and land use patterns and require development to demonstrate the fiscal management of growth-related costs.	Approach	County/ Township
7. Continue to work with the school boards to provide growth information to assess school accommodation needs and promote integrated planning of recreation and safe access to schools.	Approach	Township-Led

Embracing Creative and Innovative Solutions

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Allow for creativity in the development process while meeting provincial, County, and Township planning requirements.	Approach	County/ Township
2. Continue to encourage early consultation with applicants on planning and development applications to allow for more involvement with Township and County staff in the vision of the proposed development.	Approach	County/ Township

Engaging Residents, Businesses and Community Groups

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Include the engagement of local residents and businesses in planning processes and use input to inform planning decisions.	Approach	Township-Led
2. Enhance information sharing and participation with residents for the Township to increase engagement and sense of community.	Approach	Township-Led

Preserving the Character and Vibrancy of Our Communities and Countryside

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Continue to develop and support tourism related to cultural heritage, recreation, agriculture, outdoor adventure, etc.	Approach	County/ Township
2. Ensure the Township's downtown and main street areas continue to function as important public realms for commerce and community interactions. In addition, encourage developments within the downtown areas to contribute towards the enhancement of a sense of community and gathering place.	Approach	Township-Led
3. Continue to support Community Improvement Plans that promote continual investment in our urban centres. Consider developing and implementing design guidelines.	Initiative	Township-Led
4. Continue to recognize the importance of agriculture in the Township and ensure its continued viability by protecting prime agricultural areas.	Approach	County/ Township

Nurturing a Diverse and Adaptable Local Economy and Employment Base

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Develop an Employment Strategy that recommends tools and policies to protect and diversify the economic base of the Township.	Initiative	Township-Led
2. Continue efforts to support downtown revitalization, ensuring a strong core in our urban areas.	Initiative	Township-Led
3. Continue to support S.M.E. (Small Medium-Sized Enterprises) in our community, recognizing the importance of S.M.E. as part of our economic base.	Initiative	Township-Led
4. Consider opportunities to support labour force retention and development, entrepreneurs, and business incubators (facilities that are available for business start-ups).	Initiative	County/ Township
5. Continue to support municipal involvement in the development of employment lands, including working with neighbouring jurisdictions to identify opportunities for collaboration.	Initiative	Township-Led
6. Protect employment lands to balance job growth and residential growth and provide opportunities for investment and growth.	Approach	County/ Township
7. Develop and maintain a database of vacant industrial land in the Township in order to maintain regular updates on vacant land supply opportunities.	Initiative	Township-Led
8. Participate in strategic partnerships and programs to capitalize on economic development opportunities that involve industrial land development.	Approach	Township-Led
9. Undertake and facilitate new planning activities to encourage industrial development/ redevelopment of industrial areas in an orderly, cost-effective way, and ensure development opportunities are continually available.	Approach	County/ Township
10. Continue to streamline development approval processes and enhance communication and	Approach	County/ Township

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
customer service to facilitate the development of industrial land and buildings.		
11. Conduct analysis of non-residential development charges to ensure the municipality stays competitive.	Initiative	Township-Led

Providing Diverse and Affordable Options for Housing

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Provide an increased range and mix of attainable housing and affordable housing options, including a variety of densities by structure type and tenure (ownership and rental) to accommodate a changing, diverse population base of all backgrounds, ages, and incomes in keeping with high-quality urban design standards while maintaining the Township's small-town charm.	Approach	County/ Township
2. Stress that the County's residential density targets are minimums and advocate for higher densities of development to maximize the yield of housing on land.	Approach	County/ Township
3. Prepare an Intensification and Infill Strategy that will explore future opportunities for housing. This Strategy would build upon the work carried out by the County of Wellington as part of the O.P.R.	Initiative	Township-Led
4. Advocate for a range of housing options in development application plans.	Initiative	Township-Led
5. Continue to support development charges exemptions for purpose-built rental housing and development within the built-up area (intensification).	Initiative	Township-Led
6. Continue to explore provincial and federal government programs to support affordable housing, such as the Canada Mortgage and	Initiative	Township-Led

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
Housing Corporation Housing Accelerator Fund.		
7. Develop a Housing Strategy, which should recommend an affordable housing target for Wellington North and related strategies, tools, and policies to meet identified housing needs, including incentives to increase the supply of rental housing. A key consideration should include attainable housing.[1]	Initiative	County/ Township
8. Consider flexible policies and zoning for residential and mixed-use development in the downtown areas, while protecting the vibrancy of the downtown areas for commercial activity.	Approach	County/ Township
9. As the Township grows, a key consideration for the Township will be the review of the Zoning By-law. A review of the Zoning By-law will ensure that the Township's Zoning By-law provides a framework to accommodate new, desired development forms and employment opportunities, and provides an opportunity to tackle climate resiliency. Furthermore, there may be an opportunity to consolidate zones, to provide more simplicity.	Initiative	County/ Township

Enhancing Mobility and Connectivity within the Township and Beyond

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Develop a Transportation Master Plan (including roadway, open and unopen road	Initiative	Township-Led

[1] Attainable housing is a relatively new concept that has not yet been defined by the Province in any provincial planning documents. According to the Rural Ontario Municipal Association (ROMA), attainable housing refers to housing that is adequate in condition (no major repairs needed), appropriate in size (bedrooms appropriate for the household), reasonably priced (for lower and moderate income households), and available (a range of housing options).

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
allowances, sidewalks, and trails), specifically a “Mobility Master Plan” that includes all forms of mobility.		
2. Priorities of the transportation system will include fiscal responsibility, accessibility, equity, and optimizing the use of transportation assets.	Approach	Township-Led
3. Develop a parking plan for the downtown areas that in addition to accommodating parking for motor vehicles also considers bicycle parking facilities and horse drawn vehicle parking facilities.	Initiative	Township-Led
4. Establish a “complete streets” policy and review traffic calming opportunities in the community.[1]	Initiative	Township-Led
5. Continue to support the County’s RideWell program (including Guelph Owen Sound Transportation) and advocate for service enhancements within the Township as the Township grows.	Initiative	County/ Township
6. Review the feasibility of future local/regional transit opportunities and truck by-pass options as the Township grows.	Initiative	Township-Led
7. Support developments that consider and incorporate pedestrian trails and cycling paths.	Approach	County/ Township
8. Support the efficient movement of goods, including agricultural equipment in planning for growth and infrastructure.	Approach	County/ Township
9. Review the existing transportation network and evaluate the future impacts of growth.	Initiative	Township-Led
10. Continue to recognize the unique transportation requirements of the Township’s rural communities, including accommodating	Approach	Township-Led

[1] As defined by the organization, Complete Streets Canada, “complete streets” are safe for all users, regardless of age, ability, income, race, ethnicity, or mode of travel. By using a Complete Streets approach to designing road networks, we can create spaces that allow all users to thrive – not only motorists.

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
horses and buggies as a mode of transportation, as well as the parking stables for parking at large commercial facilities in Mount Forest.		

Ensuring the Safety and Wellbeing of Residents

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
1. Encourage developments in the Urban Area that create opportunities for residents to be physically active and socially engaged. Further, explore opportunities to ensure that the Township's rural communities (e.g., Damascus, Conn and Kenilworth) have recreational facilities and programs.	Approach	County/ Township
2. Promote the design of new communities around opportunities to support active transportation to nearby public facilities and commercial uses.	Approach	County/ Township
3. Continue to focus on implementing the Municipal Cultural Plan. The quality of life within a community is intricately linked to its richness of cultural assets. The Municipal Plan will provide a supportive framework that enables culture to continue to thrive in the Township.	Initiative	Township-led
4. Support developments that include pedestrian trails and cycling paths.	Approach	County/ Township
5. Continue to implement the Wellington North Recreation Master Plan and consider how the recreational needs of the Township will change according to the change in	Initiative	Township-Led

Strategic Growth Direction	Approach or Initiative	Township Leading or Partnership with County?
demographics, as well as the location of new growth areas.[1]		

[8] This is an initiative that is currently underway by staff at the Township of Wellington North.

Chapter 7
Next Steps

7. Next Steps

The Township, in partnership with the County of Wellington, should continue to proactively monitor growth within the Township. As part of this review, the Township should also monitor growth as it relates to infrastructure and service needs. It is important to recognize that over the next couple of decades there will be updates to the growth forecast, allocations, and key growth targets (i.e., intensification and density) as part of an O.P.R. The County's next O.P.R. is likely to involve a longer time horizon, i.e., beyond 2051, and that will have an impact on land needs and infrastructure. As a result, to proactively prepare for discussions with the County, the Township should explore the infrastructure requirements of all Future Development lands within the Urban Centres of Mount Forest and Arthur through potential secondary plans or master plans. Exploring infrastructure requirements will also be key in preparing for potential discussions and planning applications by landowners or developers.

Furthermore, the Township should review the supply of the Township's vacant Employment Area lands more closely as part of an Employment Area Strategy. The Employment Area Strategy would explore the competitiveness of the Employment Areas, the appropriateness of vacant sites for industrial development, and opportunities to service vacant Employment Area lands.

Other key studies and initiatives that should be explored include an updated Transportation Mobility Plan, a Stormwater Study, an Intensification and Infill Strategy, a Downtown Parking Study, completing the Wellington North Recreation Master Plan, and a Housing Affordability Study. Furthermore, the Township should expand its Sewage Allocation Policy to include water/wastewater for the Township's Urban Centres to manage and phase residential and employment growth to 2051. This policy will provide transparency on growth priorities (balancing residential and non-residential demands and location), what improvements are required, and the timelines.

A reoccurring theme by members of the public included the need to bring the Township together as one collective community. It has been observed that there is a necessity to shift the focus from the distinctions among the communities within Wellington North towards acknowledging and emphasizing the commonalities they share. Looking forward, the Township is anticipated to accommodate a higher rate of growth and, as a result, will need to ensure that Council and the general public of the Township come together to make decisions on accommodating growth that impacts the Township as a whole.

Appendix A
Growth Forecast

Appendix A: Township of Wellington North Growth Forecasts

Figure E-1
Township of Wellington North Population and Housing Forecast to 2051

Year	Population (Including Census Undercount)[1]	Households					Persons Per Unit (PPU)
		Low Density[2]	Medium Density[3]	High Density[4]	Other	Total	
2016	12,300	3,660	260	730	20	4,670	2.634
2021	12,800	3,780	330	730	20	4,860	2.634
2024	13,800	4,060	370	820	20	5,270	2.619
2026	14,700	4,260	420	880	20	5,580	2.634
2031	16,100	4,640	500	970	20	6,130	2.626
2036	17,400	4,960	610	990	20	6,580	2.644
2041	17,700	5,020	630	1,030	20	6,700	2.642
2046	19,600	5,520	760	1,080	20	7,380	2.656
2051	20,500	5,760	790	1,090	20	7,660	2.676

[1]Based on Census undercount of 3%.
[2]Low density includes single-detached and semi-detached housing units.
[3]Medium density includes row housing units and back-to-back townhouses.
[4]High density includes apartments and stacked townhouses.
Notes: 2016 and 2021 are based on Statistics Canada Census. 2024 is an estimate by Watson & Associates Economists Ltd.
May not add up precisely due to rounding.
Source: Watson & Associates Economists Ltd.

Figure E-2
Township of Wellington North
Population and Housing Growth Forecast by Area

Arthur							
Year	Population (Including Census Undercount)[1]	Households					Persons Per Unit (PPU)
		Low Density[2]	Medium Density[3]	High Density[4]	Other[5]	Total	
2021	2,700	765	90	170	10	1,035	2.61
2024	3,300	925	132	173	10	1,240	2.66
2026	3,500	940	140	240	10	1,330	2.63
2031	3,900	1,060	170	260	10	1,500	2.60
2036	4,200	1,110	200	280	10	1,600	2.63
2041	4,400	1,140	200	310	10	1,660	2.65
2046	4,700	1,200	240	330	10	1,780	2.64
2051	4,800	1,240	250	340	10	1,840	2.61
2024 - 2051	1,500	315	118	167	-	600	

Mount Forest							
Year	Population (Including Census Undercount)[1]	Households					Persons Per Unit (PPU)
		Low Density[2]	Medium Density[3]	High Density[4]	Other[5]	Total	
2021	5,300	1,545	170	575	0	2,290	2.31
2024	5,800	1,628	238	648	0	2,490	2.33
2026	6,700	1,840	270	640	0	2,750	2.44
2031	7,600	2,060	330	710	0	3,100	2.45
2036	8,500	2,290	410	710	0	3,410	2.49
2041	8,600	2,300	430	720	0	3,450	2.49
2046	10,000	2,670	530	740	0	3,940	2.54
2051	10,500	2,820	540	750	0	4,110	2.55
2024 - 2051	4,700	1,192	302	102	-	1,620	

Rural							
Year	Population (Including Census Undercount)[1]	Households					Persons Per Unit (PPU)
		Low Density[2]	Medium Density[3]	High Density[4]	Other[5]	Total	
2021	4,800	1,460	0	0	5	1,465	3.28
2024	4,700	1,511	0	0	5	1,540	3.05
2026	4,500	1,480	0	0	5	1,485	3.03
2031	4,600	1,520	0	0	5	1,525	3.02
2036	4,700	1,570	0	0	5	1,575	2.98
2041	4,800	1,570	0	0	5	1,575	3.05
2046	5,000	1,650	0	0	5	1,655	3.02
2051	5,100	1,700	0	0	5	1,705	2.99
2024 - 2051	400	189	-	-	-	166	

[1]Based on Census undercount of 3%.
[2]Low density includes single-detached and semi-detached housing units.
[3]Medium density includes row housing units and back-to-back townhouses.
[4]High density includes apartments and stacked townhouses.
Notes: 2021 is based on Statistics Canada Census. 2024 is an estimate by Watson & Associates Economists Ltd.
May not add up precisely due to rounding.
Source: Watson & Associates Economists Ltd.

Figure E-3
Township of Wellington North Population and Employment Growth Forecast to 2051

Year	Population (Including Census Undercount)[1]	Employment	Employment Activity Rate
2016	12,300	7,100	58%
2021	12,800	7,300	57%
2024	13,800	7,600	55%
2026	14,700	7,700	52%
2031	16,100	8,300	52%
2036	17,400	8,900	51%
2041	17,700	9,400	53%
2046	19,600	10,000	51%
2051	20,500	10,500	51%
2024-2051	**6,700**	**2,900**	**-**

[1]Based on Census undercount of 3%.
Notes: 2016 and 2021 are based on Statistics Canada Census. Employment for 2021 is an estimate by Watson & Associates Economists Ltd. 2024 is an estimate by Watson & Associates Economists Ltd.
May not add up precisely due to rounding.
Source: Watson & Associates Economists Ltd.

Figure E-4
Township of Wellington North
Employment Growth Allocations

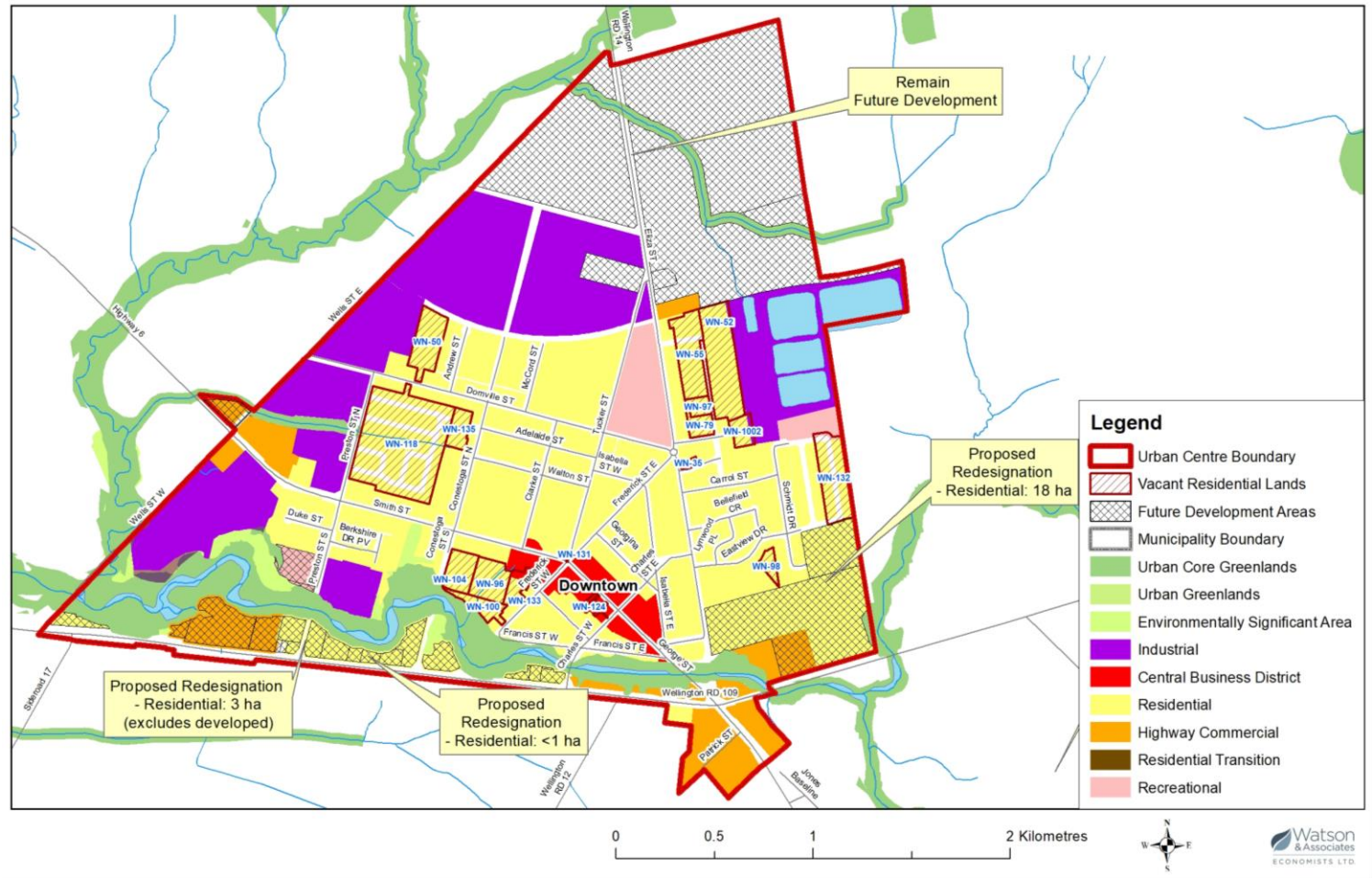
Time Period	Arthur	Mount Forest	Rural Area	Total
2024	2,370	3,840	1,390	7,600
2051	3,245	5,680	1,575	10,500
2024 to 2051	**875**	**1,840**	**185**	**2,900**

Source: Derived from the County of Wellington, Phase 1 MCR Report: Urban Structure and Growth Allocations prepared by Watson & Associates Economists Ltd., 2022. Estimate for 2024 by Watson & Associates Economists Ltd.

Appendix B
Land Supply and Housing Potential on Vacant Lands

Appendix B: Land Supply and Housing Potential on Vacant Lands

Figure B-1
Arthur Urban Centre
Map of Vacant Residential Lands



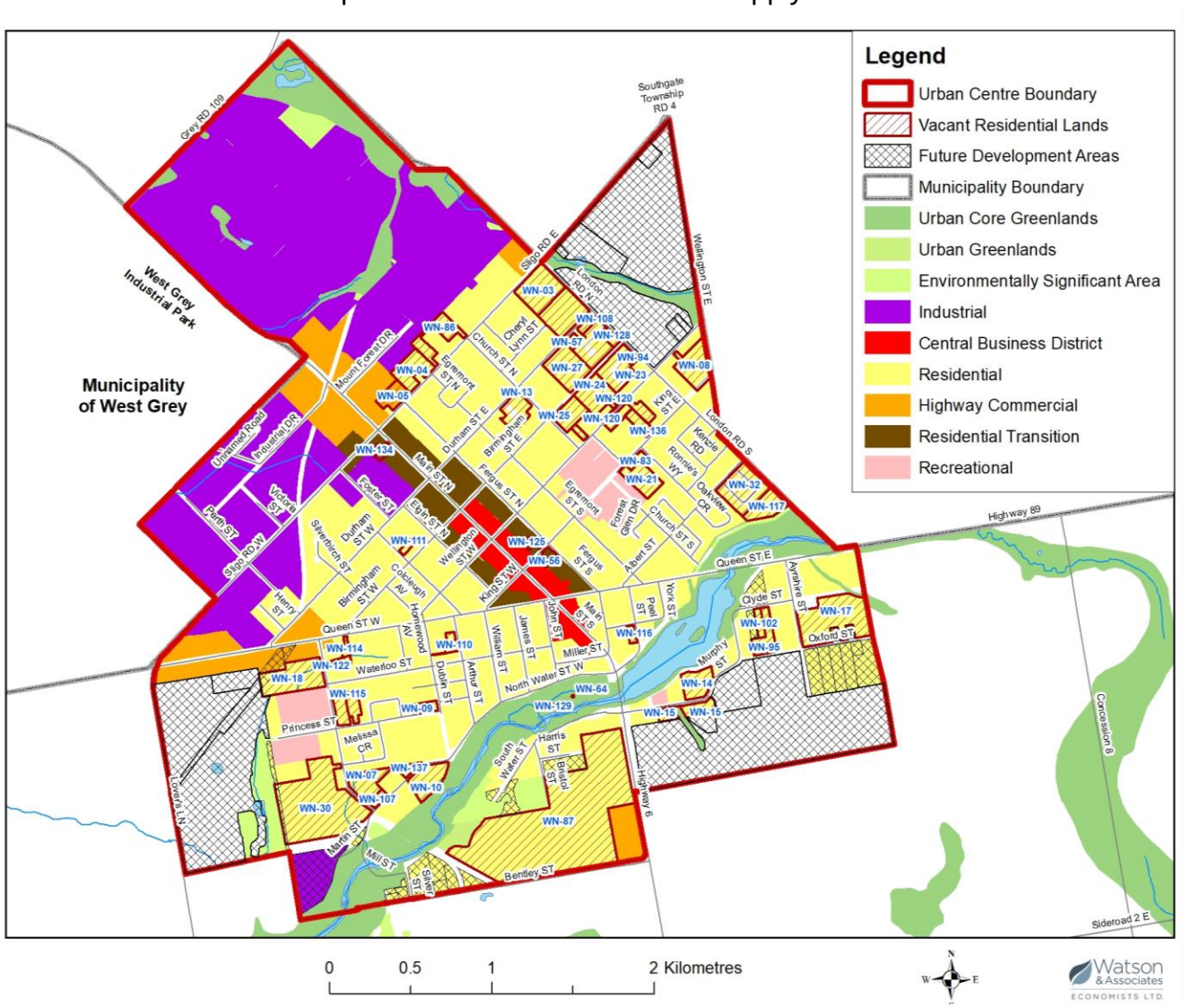
Note: Map includes proposed redesignation sites as part of County of Wellington O.P.A. 123.
Source: Mapping data provide by County of Wellington Planning Department, 2023. Map prepared by Watson & Associates Economists Ltd.

Figure B-2
Arthur Urban Centre
Housing Unit Potential Supply

Map Id#	Urban Centre	Supply Category	Development	Low Density Units	Medium Density Units	High Density Units	Total Units	Built Boundary
WN-65	Arthur	Registered	Vacant Lots in Existing Neig	11	0	0	11	Yes
WN-96	Arthur	Registered	Frederick St West Lot	1	0	0	1	
WN-118	Arthur	Registered	Cachet Developments	38	64	0	102	Yes
WN-131	Arthur	Registered	Accessory Residential Units	0	0	0	0	Yes
WN-132	Arthur	Registered	Eastridge Landing Phase 4	36	20	0	56	
WN-55	Arthur	Draft-Approved	Disapio-Bolger 23T-89002-(	30	0	25	55	
WN-50	Arthur	Draft-Approved	Domville W of Andrew	18	8	24	50	
WN-135	Arthur	Draft-Approved	VED Homes	0	35	0	34	Yes
WN-123	Arthur	Application-Under-Review	Arthur Green Development I	0	0	32	32	Yes
WN-124	Arthur	Application-Under-Review	Arthur Green Development I	0	0	15	15	Yes
WN-133	Arthur	Application-Under-Review	Frederick Street Apartment	0	0	59	59	Yes
WN-52	Arthur	Vacant-Designated	Edelbrook Brothers	51	15	7	73	
WN-66	Arthur	Vacant-Designated	Potential Infill Consents	6	0	0	6	Yes
WN-79	Arthur	Vacant-Designated	204 Gordon St.	0	37	0	37	Yes
WN-97	Arthur	Vacant-Designated	Gordon ST Hidden lots	0	17	0	17	
WN-98	Arthur	Vacant-Designated	Hidden Lot behind Schimdt I	0	0	0	0	
WN-99	Arthur	Vacant-Designated	Francis St W Vacant Lot	4	0	0	4	
WN-1002	Arthur	Vacant-Designated	213 Gordon Street Intensific	0	11	0	11	
Total Arthur				**195**	**207**	**162**	**563**	

Source: County of Wellington Planning Department, summarized by Watson & Associates Economists Ltd., 2023.

Figure B-3
Mount Forest Urban Centre
Map of Vacant Residential Land Supply



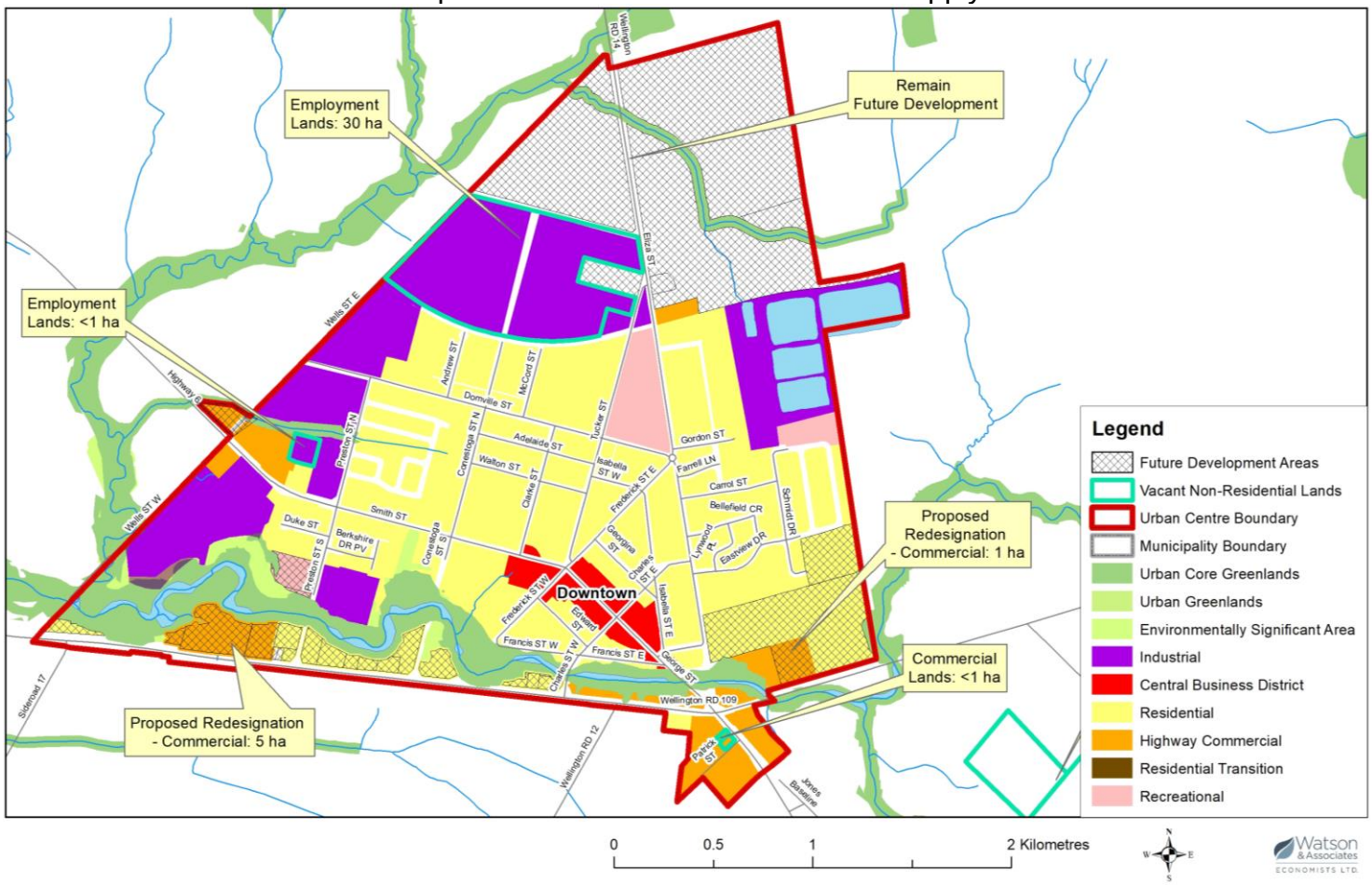
Note: Map includes proposed redesignation sites as part of County of Wellington O.P.A. 123.
Source: Mapping data provide by County of Wellington Planning Department, 2023. Map prepared by Watson & Associates Economists Ltd.

Figure B-4
Mount Forest Urban Centre
Housing Unit Potential Supply

Map Id#	Urban Centre	Supply Category	Development	Low Density Units	Medium Density Units	High Density Units	Total Units	Built Boundary
WN-05	Mount Forest	Registered	N of Sligo T w Fergus	0	0	26	26	Yes
WN-09	Mount Forest	Registered	N Princess (Nursing)	0	0	38	38	Yes
WN-15	Mount Forest	Registered	S of Murphy	2	0	0	2	
WN-23	Mount Forest	Registered	H. Bye	0	22	0	22	
WN-26	Mount Forest	Registered	N Birm. W London	19	10	0	29	
WN-105	Mount Forest	Registered	Reeves Saugeen Highlands - Greenfield	1	0	0	1	
WN-56	Mount Forest	Registered	Royal Stone 190 King	0	0	30	30	Yes
WN-59	Mount Forest	Registered	470 Cork St.	0	6	0	6	Yes
WN-76	Mount Forest	Registered	Plan 419	1	0	0	1	Yes
WN-21	Mount Forest	Registered	Marlanna Homes	22	0	0	22	
WN-31	Mount Forest	Registered	Reeves Saugeen Highlands - Built Boundary	1	0	0	1	Yes
WN-110	Mount Forest	Registered	Circuit Holding Inc	0	10	0	10	Yes
WN-111	Mount Forest	Registered		4	0	0	4	Yes
WN-112	Mount Forest	Registered		3	0	0	3	
WN-63	Mount Forest	Registered	Vacant Lots in Existing Neighbourhoods	13	0	0	13	Yes
WN-107	Mount Forest	Registered	Martin ST Severances	1	0	0	1	
WN-109	Mount Forest	Registered	Sharpe Development	0	4	0	4	Yes
WN-120	Mount Forest	Registered	Consents off Wellington Street E	1	0	0	1	
WN-136	Mount Forest	Registered	425 and 427 King Street East	0	18	0	18	Yes
WN-130	Mount Forest	Registered	405 Wellington Street E	0	8	0	8	Yes
WN-87	Mount Forest	Draft-Approved	Murphy Lands	291	120	0	411	
WN-07	Mount Forest	Application-Under-Review	Betty Dee	0	34	0	34	
WN-30	Mount Forest	Application-Under-Review	John Welton Custom Homebuilding	93	48	0	141	
WN-137	Mount Forest	Application-Under-Review	Betty Dee consents	5	0	0	5	
WN-138	Mount Forest	Application-Under-Review	440 Wellington Street East	0	28	0	28	Yes
WN-03	Mount Forest	Vacant-Designated	S of Sligo W of London	39	0	0	39	
WN-04	Mount Forest	Vacant-Designated	N of Sligo E of NoFrills	26	0	0	26	
WN-10	Mount Forest	Vacant-Designated	S Martin W Saugeen	8	0	0	8	Yes
WN-16	Mount Forest	Vacant-Designated	E Murphy S Glasgow	6	0	0	6	
WN-17	Mount Forest	Vacant-Designated	E Ayrshire N Oxford	6	0	0	6	
WN-18	Mount Forest	Vacant-Designated	W Cork N ball fields	0	4	0	4	
WN-25	Mount Forest	Vacant-Designated	S Birmingham	17	0	0	17	
WN-27	Mount Forest	Vacant-Designated	Greenhouse N Birm.	32	0	0	32	
WN-29	Mount Forest	Vacant-Designated	N Durham W London	39	0	0	39	
WN-86	Mount Forest	Vacant-Designated	N of Sligo W of High School	20	0	0	20	
WN-08	Mount Forest	Vacant-Designated	Reeves E London	34	0	0	34	
WN-113	Mount Forest	Vacant-Designated		0	13	0	13	
WN-116	Mount Forest	Vacant-Designated		0	8	0	8	Yes
WN-117	Mount Forest	Vacant-Designated		0	37	0	37	Yes
WN-24	Mount Forest	Vacant-Designated	Chicken Barns (N Well.)	22	6	3	31	
WN-134	Mount Forest	Vacant-Designated	WT Land CORP	0	0	17	17	Yes
Total Mount Forest				**706**	**376**	**114**	**1,196**	

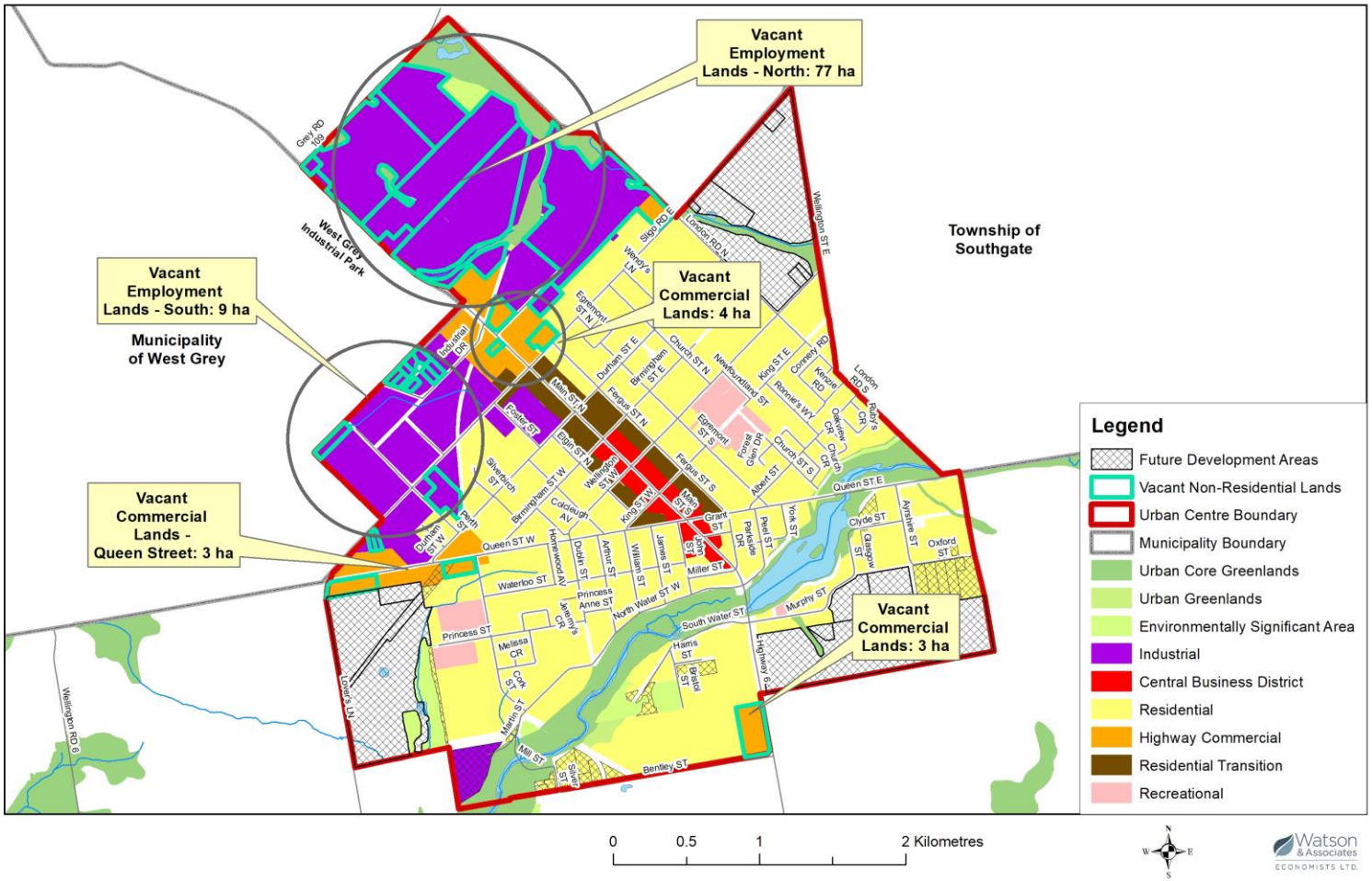
Source: County of Wellington Planning Department, summarized by Watson & Associates Economists Ltd., 2023.

Figure B-5
Arthur Urban Centre
Map of Vacant Non-Residential Land Supply



Note: Map includes proposed redesignation sites as part of County of Wellington O.P.A. 123. Vacant residential lands are outlined in the colour cyan.
Source: Mapping data provide by County of Wellington Planning Department, 2023. Map prepared by Watson & Associates Economists Ltd.

Figure B-6
Mount Forest Urban Centre
Map of Vacant Non-Residential Land Supply

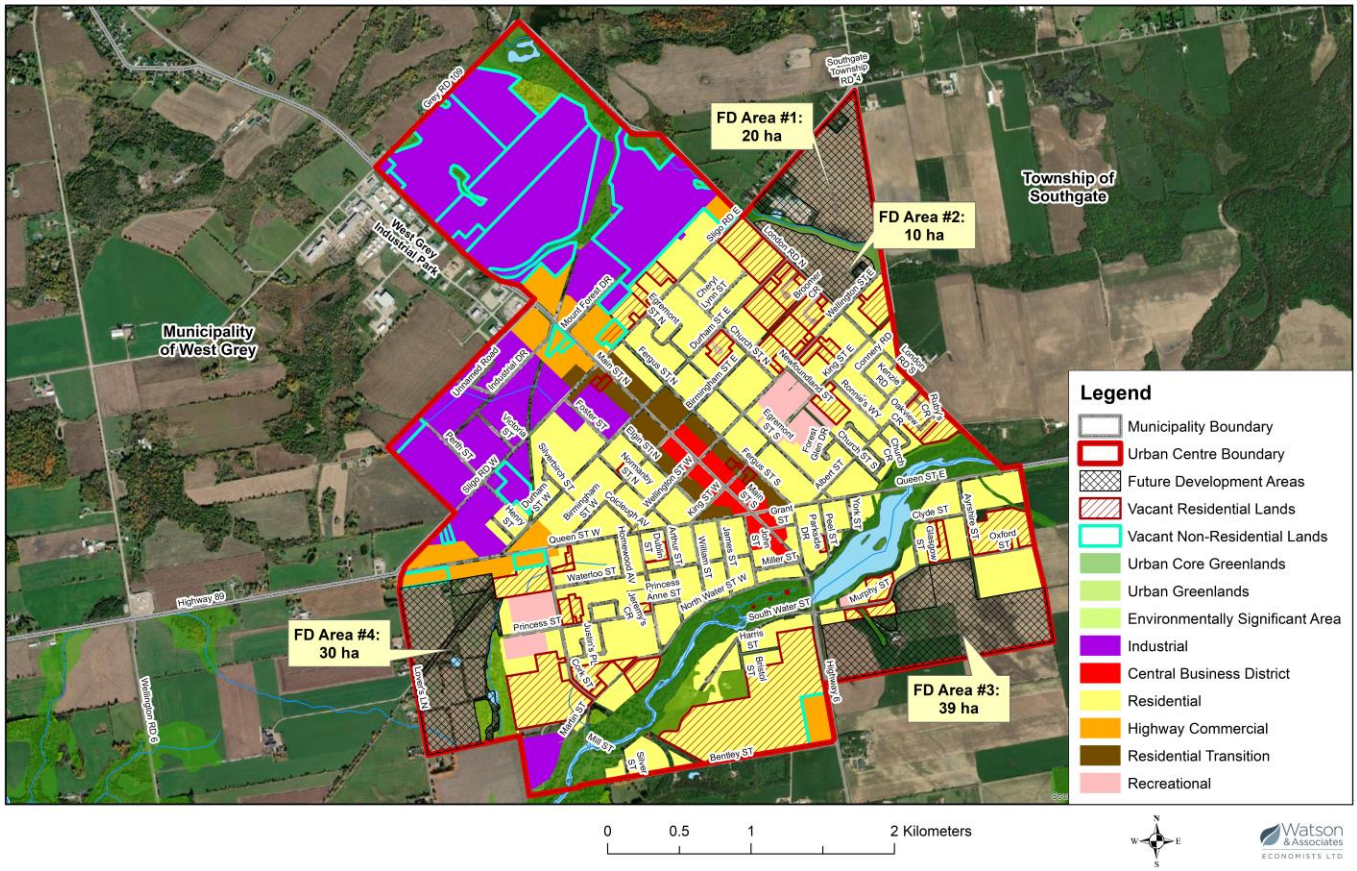


Note: Map includes proposed redesignation sites as part of County of Wellington O.P.A. 123. Vacant residential lands are outlined in the colour cyan.
Source: Mapping data provide by County of Wellington Planning Department, 2023. Map prepared by Watson & Associates Economists Ltd.

Appendix C
Future Development Lands

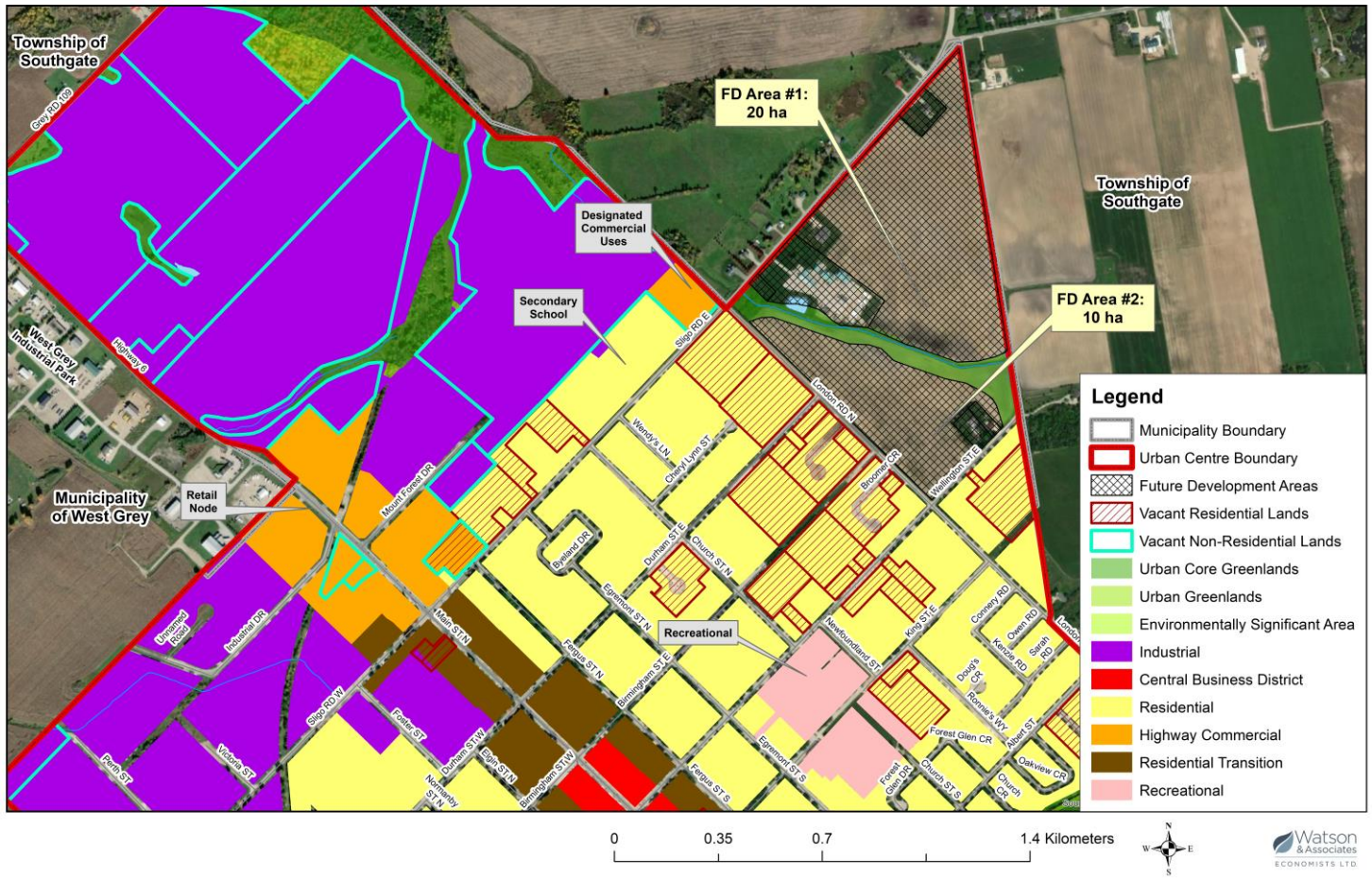
Appendix C: Future Development Lands

Figure C-1
Mount Forest Urban Centre
Map of Future Development Areas



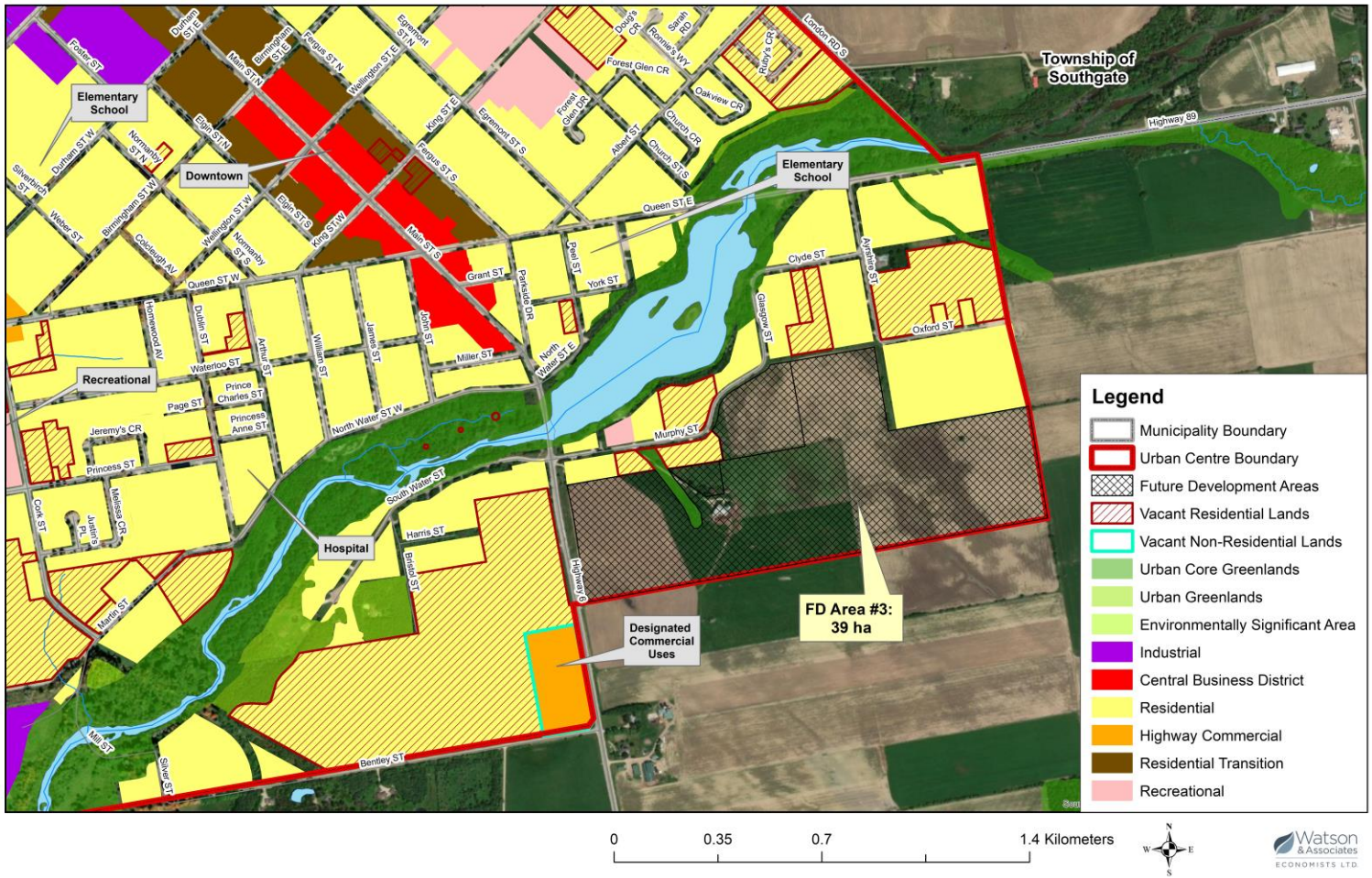
Note: Future Development lands have been refined to exclude the proposed O.P.A. 123 which proposes to remove Future Development lands that are largely already developed.
FD = Future Development
Source: Watson & Associates Economists Ltd.

Figure C-2a
Mount Forest Urban Centre
Map of Future Development Areas – Future Development Areas #1 and #2



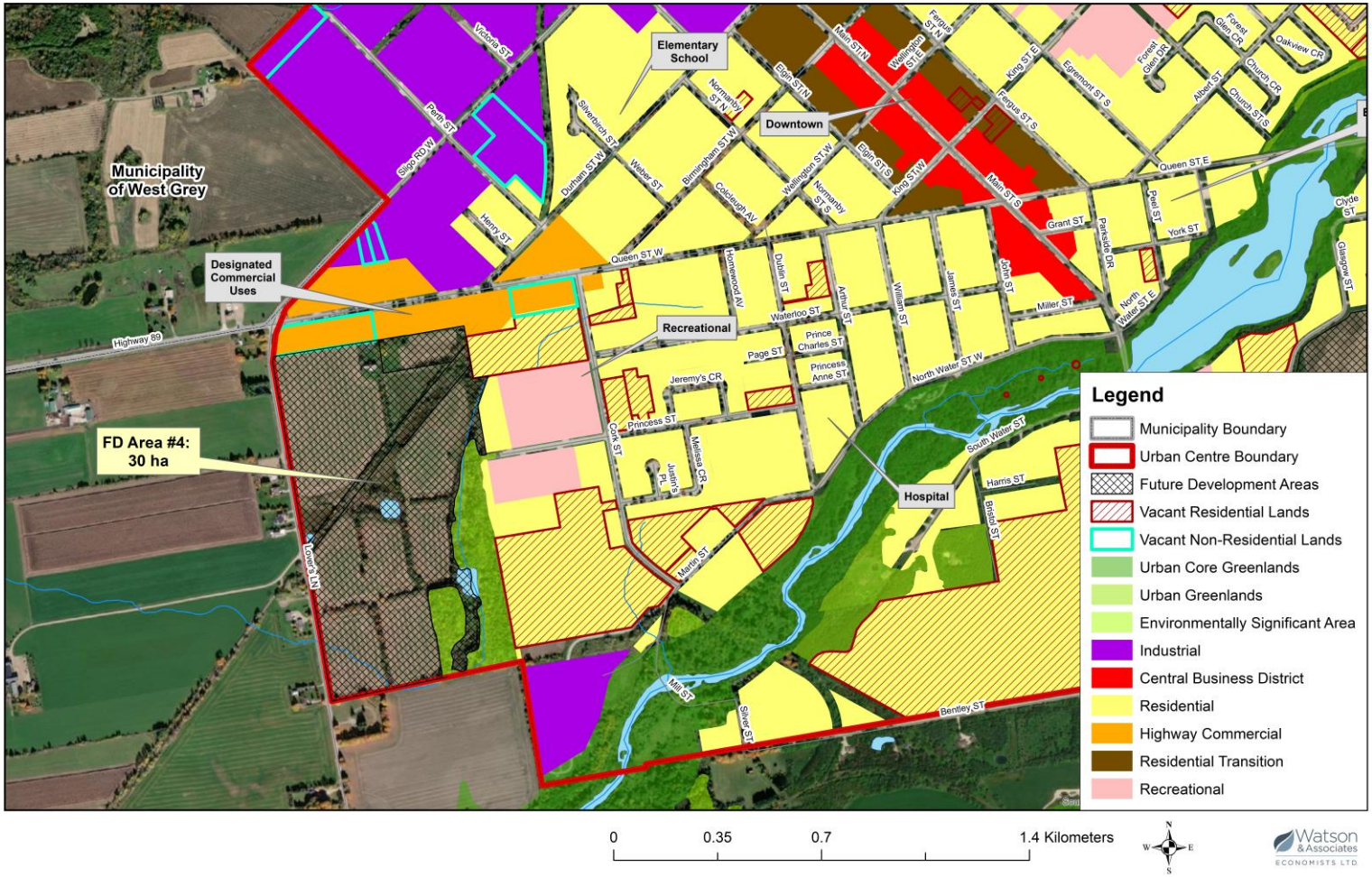
FD = Future Development

Figure C-2b
Mount Forest Urban Centre
Map of Future Development Areas – Future Development Area #3



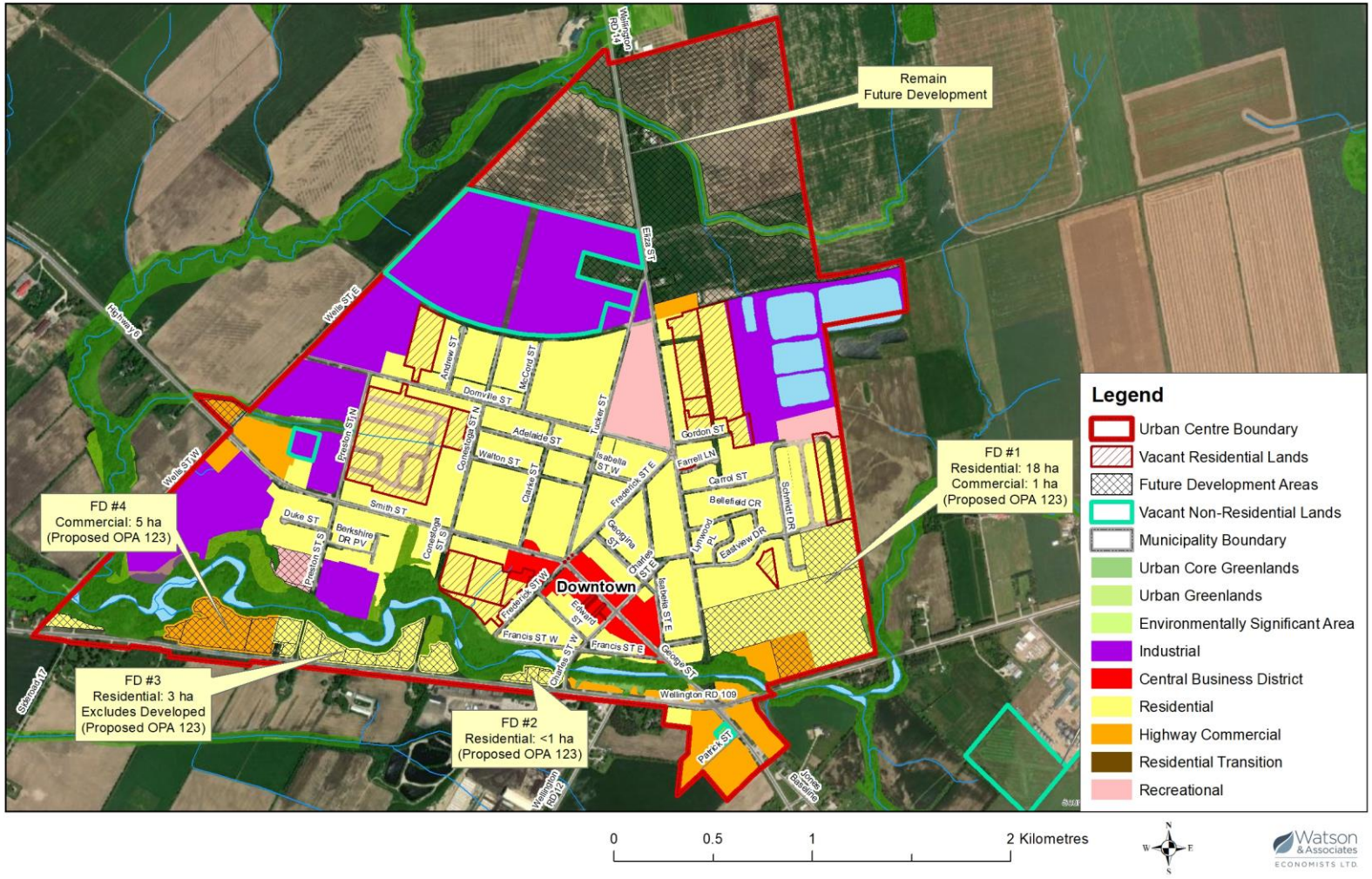
FD = Future Development

Figure C-2c
Mount Forest Urban Centre
Map of Future Development Areas – Future Development Area #4



FD = Future Development

Figure C-3
Arthur Urban Centre
Map of Future Development Areas



TOWNSHIP OF WELLINGTON-NORTH

2021 DEVELOPMENT CHARGES BACKGROUND STUDY & BY-LAW

DFA Infrastructure International Inc.

February 11th 2022

DFA Infrastructure International Inc.
33 Raymond Street St. Catharines Ontario Canada L2R 2T3
Telephone: (905) 938 -0965 Fax: (905) 937-6568

February 11, 2022

Adam McNabb
Director of Finance & Treasury
Township of Wellington-North
7490 Sideroad 7 W, PO Box 125,
Kenilworth, Ontario, N0G 2E0

Dear Adam,

Re: **Township of Wellington-North**
2021 Development Charges (DC) Background Study & By-law

We are pleased to submit the 2021 DC Background Study and By-law. Since the first draft was issued a Stakeholder Workshop was held on November 30th 2021 with members of Council and development stakeholders where a summary of the draft study and by-law was presented to obtain comments and directions on any proposed changes. The Statutory Public Meeting was subsequently held on February 10th 2022 to obtain public comment. The study now incorporates details of the public consultation process and can now be presented for final approval.

Please do not hesitate to call if you have any questions.

Respectfully Submitted by,

DFA Infrastructure International Inc.

Derek Ali, MBA, P.Eng.
President

Executive Summary

ES-1 Purpose

This document is the DC Background Study and its main purpose is to:

- Document the Development Charge policies and calculations of the new rates that inform the preparation of the new DC By-law;
- Present the proposed new DC By-Law to replace the existing by-law upon approval, and
- Meet the requirements of the DCA and O.Reg.82/98.

ES-2 Services Included

The services identified in Table ES1 were covered in this development charges background study and proposed new by-law based on the eligibility requirement of the Development Charges Act (DCA).

Table ES-1: Eligible Services

Services Included in DC Calculations	

• Administrative Services
  - Studies
• Roads & Related Services
  - Roads
  - Sidewalks & Streetlights
  - Bridges & Culverts
  - Facilities
  - Vehicles & Equipment
• Park Services
  - Parkland Development
  - Parkland Amenities
  - Parkland Paths & Trails
  - Vehicles & Equipment
	• By-Law Enforcement
	  - Vehicles
	• Recreation Services
	  - Recreation Facilities
	• Fire Protection Services
	  - Facilities
	  - Vehicles
	  - Equipment
	• Water Services
	  - Treatment
	  - Storage & Distribution
	• Wastewater Services
	  - Treatment
	  - Collection

ES-3 Population and Employment Growth

The population and employment growth are summarized in Table ES2, Table ES3 and Table ES4. These estimates were used to calculate the service level caps, allocating costs between residential and non-residential growth and calculating the rates.

The residential population growth in new units over the 10-year period is projected to be 2,261 and 4,718 to build out. The growth in number of units is 793 over the next 10 years and 1,651 to

build out. Residential growth represents 72% of total new growth over the 10-year period and 76% over the longer term.

Table ES-2: Population Growth & Dwelling Units

Dwelling Type	Persons Per Unit (PPU)[1]	10-Year Development Charges Study Period (2021-2030)		Beyond 10 Years (2031-2041)		Total to Build Out (2021-2041)	
		No. of Units	Population Growth	No. of Units	Population Growth	No. of Units	Population Growth
Single Detached & Semis	3.19	540	1,724	592	1,887	1,132	3,611
Multiples	2.52	115	289	129	324	243	613
Apartments	1.79	138	247	138	247	276	494
Population Increase in New Units (GROSS)		**793**	**2,261**	**858**	**2,458**	**1,651**	**4,718**
Decline In Population [2]			(137)		(179)		(315)
Total Population Increase (NET)			**2,124**		**2,279**		**4,403**

1. County of Wellington DC Study Table 6-2. Apartments PPU is the average for all apartments

2. Population decline due to resident life cycle, economy,etc.

The employment growth projections over the same periods are 867 for the first 10 years and 1,459 to build out. These equate to an additional 708,140 ft^2 of Gross Floor Area (GFA) in the first 10 years and 1,161,560 ft^2 to build out.

Table ES-3: Employment Growth

Employment Sector	10-Year Development Charges Study Period (2021-2030)	Beyond 10 Years (2031-2041)	Total to Build Out (2021-2041)
Population			
Industrial Employment	289	163	452
Commercial Employment	507	373	880
Institutional Employment	71	56	127
Total Employment Population Increase	**867**	**591**	**1,459**
[1] ***Gross Floor Area (ft^2)***			
Industrial Employment	404,880	227,920	632,800
Commercial Employment	253,700	186,300	440,000
Institutional Employment	49,560	39,200	88,760
Total GFA Increase (ft^2)	**708,140**	**453,420**	**1,161,560**

1. Based on GFA Per Employee from 2016 Wellington County DC Study, Table 9-b. (1400 ft^2 industrial; 700 ft^2 institutional; 500 ft^2 commercial)

Table ES4 summarizes the population growth estimates in the urban areas to build out (2021-2041). The gross residential population growth within the urban area in new units is projected to be 4,367 to build out.

Table ES-4: Population Growth – Urban Areas

Growth Item	Persons Per Unit (PPU)[1]	Inside Urban Area - Arthur & Mount Forest		Outside Urban Area		Total	
		Units	Population	Units	Population	Units	Population
Single Detached & Semis	3.19	1,054	3,363	78	248	1,132	3,611
Multiples	2.52	219	552	24	61	243	613
Apartments	1.79	253	453	23	42	276	494
Population Growth (Gross)		1,526	4,367	125	351	1,651	4,718
Population Decline			(113)		(202)		(315)
Population Growth (Net)			4,254		149		4,403

1. County of Wellington DC Study Table 6-2. Apartments PPU is the average for all apartments

2. Population decline due to resident life cycle, economy,etc.

Table ES5 summarizes the employment growth estimates in the urban areas to build out (2021-2041. The employment growth estimate over the build out period is 1,400 which is equivalent to a GFA of 1,115,098 ft^2. These urban area projections form the basis for the water and wastewater

Table ES-5: Employment Growth – Urban Areas

Employment Sector	Total to Build Out Urban Areas (2021-2041)
Population	
Industrial Employment[1]	434
Commercial Employment[2]	845
Institutional Employment[2]	122
Total Employment Population Increase	**1,400**
[3] Gross Floor Area (ft^2)	
Industrial Employment	607,488
Commercial Employment	422,400
Institutional Employment	85,210
Total GFA Increase (ft^2)	**1,115,098**

1.Wellington North Community Growth Plan 2018 - Section 3.4 Employment Growth Strategy

2.Prorated based on population in urban areas vs. municipal wide

3. GFA Per Employee from 2016 Wellington County DC Study, Table 9-b. (1400 ft2 industrial; 700 ft2 institutional; 500 ft2 commercial)

ES-4 Recoverable Growth Related Capital Needs

The capital cost eligible for recovery through the development charges after deductions and adjustments and their respective allocations to the residential and non-residential sectors are summarized by service in Table ES-6.

Table ES-6: Allocation of Costs to Residential & Non-Residential

Service	Net Capital Needs to be Recovered	Residential Share	Non-Residential Share	Basis for Allocation
Municipal Wide Services				
Administration - Studies	$ 86,558	$ 62,555	$ 24,003	% of Population and Employment Growth
Parks Services	$ 472,543	$ 448,916	$ 23,627	95% residential - 5% non residential
Recreation Services	$ 1,154,387	$ 1,096,667	$ 57,719	95% residential - 5% non residential
By-Law Enforcement	$ 1,300	$ 940	$ 360	% of Population and Employment Growth
Fire Protection Services	$ 88,794	$ 64,171	$ 24,623	% of Population and Employment Growth
Roads and Related	$ 4,610,885	$ 3,332,258	$ 1,278,627	% of Population and Employment Growth
Total Municipal Wide Services	**$ 6,414,467**	**$ 5,005,506**	**$ 1,408,960**	
Urban Services				
Water Servcies	$ 6,478,070	$ 4,905,127	$ 1,572,943	% of Population and Employment Growth
Wastewater Services	$ 19,921,553	$ 15,084,391	$ 4,837,162	% of Population and Employment Growth
Total Urban Services	**$ 26,399,624**	**$ 19,989,518**	**$ 6,410,106**	
Total Adjustments	**$ 32,814,090**	**$ 24,995,024**	**$ 7,819,066**	

ES-5 Calculated Development Charges

The calculated residential development charges by type of dwelling unit and the non-residential development charges per square foot are presented in Table ES-7. The charges were based on:

- Occupancy rates (persons per unit - PPU) of 3.19, 2.07, 1.51 and 2.52 for single & semi-detached, apartments - 2 or more bedrooms, apartments - bachelor and 1 bedroom and other multiples respectively.
- Applying the charges for water and wastewater to development within the urban area only.
- Setting the DC for Semi- Detached Dwellings the same as the DC for Single Detached Dwelling;
- Setting the DC for Wind Turbines the same as the DC for a Single Detached Dwelling for Municipal Wide Services;
- Setting the DC for Commercial/ Institutional at 100% of the calculated charges;
- Setting the DC for Industrial at 50% of the calculated charges;

- Setting the DC for Warehouses at 25% of the calculated charges; and
- No phasing in

All charges will be subject to annual indexing in accordance with O.Reg.82/98 Section 7.

Table ES-7: Calculated Residential Development Charges

Service	RESIDENTIAL			
	Single/Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments-Bachelor and 1 bedroom	Other Multiples
Municipal Wide Services				
Administration - Studies	$ 87.77	$ 56.96	$ 41.55	$ 69.34
Parks Services	$ 630.11	$ 408.88	$ 298.26	$ 497.76
Recreation Services	$ 1,557.31	$ 1,010.54	$ 737.16	$ 1,230.23
By-Law Enforcement	$ 1.35	$ 0.88	$ 0.64	$ 1.07
Fire Protection Services	$ 86.81	$ 56.33	$ 41.09	$ 68.58
Roads and Related	$ 2,277.58	$ 1,477.93	$ 1,078.10	$ 1,799.21
Total Municipal Wide Services	**$ 4,640.93**	**$ 3,011.51**	**$ 2,196.80**	**$ 3,666.19**
Urban Services				
Wastewater Services	$ 11,174.93	$ 7,251.44	$ 5,289.70	$ 8,827.85
Water Services	$ 3,610.15	$ 2,342.63	$ 1,708.88	$ 2,851.90
Total Urban Services	**$ 14,785.08**	**$ 9,594.08**	**$ 6,998.58**	**$ 11,679.75**
GRAND TOTAL RURAL AREA	$ 4,640.93	$ 3,011.51	$ 2,196.80	$ 3,666.19
GRAND TOTAL URBAN AREA	**$ 19,426.01**	**$ 12,605.59**	**$ 9,195.38**	**$ 15,345.94**

Table ES-8: Calculated Non-Residential Development Charges

Service	NON-RESIDENTIAL			
	Commercial/ Institutional (per ft^2 of Gross Floor Area)	Industrial		
		Industrial (per ft^2 of Gross Floor Area)	Warehouse (per ft^2 of Gross Floor Area)	Wind Turbine
Municipal Wide Services				
Administration - Studies	$ 0.03	$ 0.02	$ 0.01	$ 87.77
Parks Services	$ 0.03	$ 0.02	$ 0.01	$ 630.11
Recreation Services	$ 0.08	$ 0.04	$ 0.02	$ 1,557.31
By-Law Enforcement	$ 0.00	$ 0.00	$ 0.00	$ 1.35
Fire Protection Services	$ 0.03	$ 0.02	$ 0.01	$ 86.81
Roads and Related	$ 1.11	$ 0.55	$ 0.28	$ 2,277.58
Total Municipal Wide Services	**$ 1.29**	**$ 0.64**	**$ 0.32**	**$ 4,640.93**
Urban Services				
Wastewater Services	$ 4.37	$ 2.19	$ 1.09	$ -
Water Services	$ 1.41	$ 0.71	$ 0.35	$ -
Total Urban Services	**$ 5.78**	**$ 2.89**	**$ 1.45**	**$ -**
GRAND TOTAL RURAL AREA	$ 1.29	$ 0.64	$ 0.32	$ 4,640.93
GRAND TOTAL URBAN AREA	**$ 7.07**	**$ 3.54**	**$ 1.77**	**$ 4,640.93**

ES-6 Comparison with Existing Charges

Table ES-9 compares the proposed residential development charges with the existing charges. The charge for Single-detached and Semi-detached dwellings was calculated to be higher than the existing charge by $1,568 for municipal wide services. There are also similar increases for the other dwelling types. There is however and a reduction for Single and Semi-Detached dwellings of $1,152 for urban services, with similar declines for the other dwelling types. Table ES-10 compares the proposed non-residential development charges with the existing charges. The charges for Commercial/ Institutional, Industrial & Warehouse within the urban area are higher compared to the existing charges. The charges outside the urban area are lower. The wind turbine charge is higher by $1,568.

Table ES-9: Proposed vs. Existing Residential Development Charges

Service	RESIDENTIAL			
	Single/ Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments-Bachelor and 1 bedroom	Other Multiples
EXISTING CHARGES				
Total Municipal Wide Services	$ 3,073.18	$ 1,994.00	$ 1,454.69	$ 1,930.67
Total Urban Services	$ 15,936.64	$ 10,341.33	$ 7,543.68	$ 12,589.45
GRAND TOTAL URBAN AREA	**$ 19,009.82**	**$ 12,335.33**	**$ 8,998.37**	**$ 14,520.12**
CALCULATED CHARGES				
Total Municipal Wide Services	$ 4,640.93	$ 3,011.51	$ 2,196.80	$ 3,666.19
Total Urban Services	$ 14,785.08	$ 9,594.08	$ 6,998.58	$ 11,679.75
GRAND TOTAL URBAN AREA	**$ 19,426.01**	**$ 12,605.59**	**$ 9,195.38**	**$ 15,345.94**
DIFFERENCE				
Total Municipal Wide Services	$ 1,567.75	$ 1,017.51	$ 742.11	$ 1,735.52
Total Urban Services	$ (1,151.56)	$ (747.25)	$ (545.10)	$ (909.70)
GRAND TOTAL URBAN AREA	**$ 416.19**	**$ 270.26**	**$ 197.01**	**$ 825.82**

Table ES-10: Proposed vs. Existing Non-Residential Development Charges

Service	NON-RESIDENTIAL			
	Commercial/ Instituitional (per ft2 of Gross Floor Area)	Industrial (per ft^2 of Gross Floor Area)	Warehouse (per ft^2 of Gross Floor Area)	Wind Turbine
EXISTING CHARGES				
Total Municipal Wide Services	$ 0.78	$ 0.40	$ 0.20	$ 3,073
Total Urban Services	$ 6.72	$ 3.34	$ 1.69	$ -
GRAND TOTAL URBAN AREA	**$ 7.50**	**$ 3.74**	**$ 1.89**	**$ 3,073**
CALCULATED CHARGES				
Total Municipal Wide Services	$ 1.29	$ 0.64	$ 0.32	$ 4,641
Total Urban Services	$ 5.78	$ 2.89	$ 1.45	$ -
GRAND TOTAL URBAN AREA	**$ 7.07**	**$ 3.54**	**$ 1.77**	**$ 4,641**
DIFFERENCE				
Total Municipal Wide Services	$ 0.51	$ 0.24	$ 0.12	$ 1,568
Total Urban Services	$ (0.94)	$ (0.45)	$ (0.24)	$ -
GRAND TOTAL URBAN AREA	**$ (0.43)**	**$ (0.20)**	**$ (0.12)**	**$ 1,567.75**

ES-7 Recommendations

The following are the recommendations are presented for consideration by the Township.

1. That the Development Charges Background Study and Development Charges By-Law as presented be approved by Council.
2. That following approval of the background study and by-law, the required notices be issued to the public and stakeholders and a pamphlet be prepared, in accordance with O.Reg.82/98.
3. That the growth-related capital projects forecast identified in the Development Charges Background Study be approved by Council as a statement of its intention to meet the increased need for service due to growth, as required under O.Reg.82/98 Section 3.
4. That any excess capacity created as a result of undertaking the growth-related capital projects identified in this background study would be paid for by development charges and therefore deemed to be "committed" in accordance with the requirements of O.Reg.82/98 Section (5).

Table of Contents

Appendices

Tables

1 Introduction

1.1 Background

The Township of Wellington-North (Township) is a lower tier municipality within Wellington County with a population of approximately 12,000 residents. It provides a wide range of services to its residents and businesses for which development charges are currently collected. These services include:

- Administration
- Fire Protection Services
- Parks
- Recreation
- Water Services
- Wastewater Services
- Roads and Related

The extent to which these services are delivered, and the costs depend not only on the existing residents and businesses but also on the anticipated growth. The recovery of the capital costs of development driven service expansions is governed by the Development Charges Act (1997) (DCA) and Ontario Regulation 82/98 (O.Reg. 82/98). The calculation and implementation of development charges (DCs) including the requirement for municipalities to prepare DC Background Studies and pass by-laws setting out the DCs to be collected from developers are prescribed by the DCA and O.Reg. 82/98.

The Township's current DC By-Law No. 059-18 will expire on June 16, 2023. It needs to be updated through the preparation of a new Background DC Study and By-law and become effective by June 17, 2023.

1.2 Purpose of this Document

This document is the DC Background Study and its main purpose is to:

- Document the Development Charge policies and calculations of the new rates that inform the preparation of the new DC By-law;
- Present the new DC By-Law; and
- Meet the requirements of the DCA and O.Reg.82/98.

2 Study Methodology

2.1 Steps in Calculating Development Charges

The methodology for this study very closely followed the methodology prescribed by the DCA particularly Section 5(1) and O.Reg. 82/98. The steps are outlined in Table 2-1.

Table 2-1: Study Methodology

DC Background Study Steps

Step 1: Review Development Charges Act, 1997 (DCA) Requirements

- The DCA and O.Reg.82/98 were reviewed to confirm requirements and their application to the Township's situation

Step 2: Develop Policy Framework

- The existing By-law No.059-18 was reviewed to identify existing policies, rules and charges set by the Township.
- Input will be obtained from Council and senior staff on relevant polices and services to be included in the DC calculations
- A presentation will be delivered to Council on outlining requirements of the DCA and O.Reg.82/98 and items for consideration by Council

Step 3: Identify Services Eligible for DCs

The services identified for preliminary consideration for inclusion in the study are listed below. These meet the eligibility requirements of O.Reg.82/98 Section 2.1:

- Administrative Services
  - Studies
- Roads & Related Services
  - Roads
  - Sidewalks & Streetlights
  - Bridges & Culverts
  - Facilities
  - Vehicles & Equipment
- Park Services
  - Parkland Development
  - Parkland Amenities
  - Parkland Paths & Trails
  - Vehicles & Equipment
- By-Law Enforcement
  - Vehicles
- Recreation Services
  - Recreation Facilities
- Fire Protection Services
  - Facilities
  - Vehicles
  - Equipment
- Water Services
  - Treatment
  - Storage & Distribution
- Wastewater Services
  - Treatment
  - Collection

Step 4: Determine Population & Employment Growth

- The growth-related data and information were reviewed
- Residential population growth was determined for the 10-year period 2021 – 2030 inclusive and the build out period 2031– 2041 inclusive. This considered the decline in population as well such that the "net" growth was used.
- Household growth was determined for the 10-year period 2021 – 2030 inclusive and the build out period 2031 – 2041 inclusive
- Employment population growth was determined for the 10-year period 2021 – 2030 inclusive and the build out period 2031 – 2041 inclusive
- Employment population growth was converted to non-residential gross floor area (GFA)
- The location of new growth was assumed to be across the Township but focused in the

DC Background Study Steps

- The number of persons per household (PPU) was determined for each type of household.

urban areas as noted in the Wellington North Community Growth Plan

Step 5: Determine Historical Service Levels

- The services for which historical service levels are required were identified. Historical service level calculations for water and wastewater were not required as these services are governed by other legislation.
- The historical population served by each service was determined
- The quantity (floor area, number of equipment, etc.) and quality (cost per square metre, per unit, etc.) of services for each year over the historical 10 years were determined.
- The average service level (cost per population) for the historical 10-year period 2011 – 2020 inclusive was determined

Step 6: Determine the Net Capital Costs to be Recovered from Development Charges

Step 6.1: Identify Growth Related Capital Needs (Gross)

- Current available servicing studies were reviewed to identify growth related capital needs.
- The forecast period used for projecting capital costs was 10 years (2021-2030) except for water, wastewater, and roads. These costs were projected over a longer term (2021 to 2041) in accordance with the DCA Section 5(1)4.
- Input from staff was obtained on growth related capital projects
- The growth-related capital forecasts were developed for each service for the period 2021-2030 inclusive showing the gross capital cost of each project. Water, wastewater, and roads growth-related capital forecast were projected over a longer term (2021 to 2041)

Step 6.2: Undertake Statutory & Other Deductions

- Any approved grants or third-party funding that are expected to be received to reduce the cost of each project were deducted from the gross cost
- The portion of each project that will benefit the existing population was determined and deducted from the net cost after grants and third-party funding were deducted

Step 6.3: Further Adjustments after Deductions

- The DCA Section 5(1) does not define uncommitted excess capacity but requires that it be deducted from the increased need for services to accommodate the new growth.
- Any credits related to existing front-end agreements were identified and added to the capital projections in accordance with O.Reg. 82/98 Section 5.
- Post period capacity amounts from the last DC Study were identified and added to the capital forecast
- The deduction of uncommitted excess capacity was deemed to have been done during the planning stages for services when capacity was assessed to determine the need for capacity expansions hence the new projects.
- Any eligible debt or reserve deficits were identified and added to the to the capital forecasts
- The remaining amounts were adjusted by any uncommitted reserve balances because these funds are available for use to offset the

DC Background Study Steps

growth-related costs.

Step 6.4: Apply Service Level Caps

- The historical average service level (Cost per Population) was multiplied by the projected population growth for the forecast period to obtain the maximum amount (cap) that could be recovered through the DCs.
- The lower of the service level cap or the net capital cost for the forecast period was used as the amount to be recovered through DCs.

Step 7: Calculate the Residential and Non-Residential Development Charges

Step 7.1: Allocate the Net Capital Cost of each Service to Residential and Non-Residential

- The basis for allocating costs to the residential and non-residential sectors was identified. In this case the allocation to residential growth was based on residential population as a percentage of the total residential plus employment population growth over the applicable period. The allocation to non-residential growth was the remainder. The allocations within the non-residential sector were made based on the policies noted in Section 4.2 Policy Direction
- Although Parks and Recreation services are mostly for the benefit of the residential sector. Their respective allocations recognized that the non-residential sector has access to these services. 95% allocated to residential and 5% non-residential

Step 7.2: Calculate the Residential and Non-Residential Unadjusted Rates

- The cost allocated to the residential sector for each service was divided by the residential population growth over the applicable period to arrive at a cost per residential population (cost per capita). The result was the unadjusted residential development charge per capita
- The cost allocated to the non-residential sector for each service was divided by the employment population growth over the applicable period to arrive at a cost per employment population.
- The cost per employment population was converted to cost per square metre of Gross Floor Area (GFA) based on conversions of 1,400 ft^2, 500 ft^2, 700 ft^2 per employment population for industrial commercial, and institutional respectively. The result was the unadjusted non-residential rate per square foot.

Step 7.3: Undertake Cash Flow Analyses

- A cash flow analysis was completed for each service using an opening reserve balance of zero, anticipated expenditures, anticipated revenues based on the calculated development charges, interest earned on positive annual balances and interest accrued on negative annual balances over the 10-year period or 21-year period as the case may be. Expenditures, revenues
- The residential and non-residential development charges (cost per population for residential and cost per square metre for non-residential) for each service were adjusted to obtain a net zero balance for each reserve at the end of the 10^{th} or 21^{st} year. These became

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and rates were inflated over the period. *Step 7.4: Calculate Proposed Development Charges*	the "adjusted" development charge rates.
• The adjusted rate per population was converted to a charge per unit for single detached dwelling units, multiple dwelling units and apartments using the appropriate persons per unit (PPU).	• The adjusted rate per square metre was deemed the proposed non-residential development charges rate for the by-law.
Step 8: Proposed Development Charges Comparison	
• The proposed development charges were compared with the existing charges.	• The proposed development charges were compared with those in other jurisdictions
Step 9: Assess Long-term Capital & Operating Cost Impacts	
• The long-term increase to operating costs of each service as a result of implementing the growth-related infrastructure was estimated. The existing operating cost per resident times the projected population were used as the basis for estimating these costs along with professional judgment and discussions with staff. • The life expectancy for each asset to be funded by the development charges was estimated based on the Township's Asset Management Plan • Annuities were calculated for the future replacement of the growth-related assets and funding	• The long-term increases to capital costs of each service as a result of implementing the growth-related infrastructure were estimated. This was based on the portion of capital costs not funded by the DCs but funded from taxes or user fees. • The future replacement cost of each asset was determined
Step 10: Prepare Draft Background Study & Draft By-Law	
• The Draft Background Study (this document) was prepared in accordance with the requirements of the DCA Section (10) and O.Reg.82/98 Section (8)	• The Draft By-Law (proposed) was prepared in accordance with the DCA Section (6)
Step 11: Undertake Stakeholder Consultation	
• The Draft Background Study and Draft By-law will be made available for public/ stakeholder review at least 60 days prior to approval of the by-law. • Public notice for a meeting to be held to obtain public/ stakeholder comments on the Draft Background Study and Draft By-law will be prepared and issued at least 20 days in advance of the meeting.	• The Draft Background Study and Draft By-law will be made available to the public/ stakeholders at least 2 weeks prior to the public meeting
Step 12: Approval & Implementation of Final Background Study and Final By-Law	
• Comments received from stakeholders will be considered and necessary changes made to the Draft	• Notice of approval of DC By-law will be given within 20 days of final approval by Council.

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Background Study and Draft By-law. • The Final Background Study and Final By-law will be prepared and presented to Council for Approval	• A pamphlet will be prepared (within 60 days of approval of the by-law) containing the items noted in O.Reg.82/98 Section 14(1) and make available to the public.

2.1 Data Sources

The primary sources of data used to prepare this Background Study are listed in Table 2-2. In addition, information was also developed from discussions with and input from the Township's staff, as required.

Table 2-2: Background Study Data Sources

Item	Data Source
Services to be Included	• By-Law No. 059-19 • Council Direction • Input from staff
Historical Residential Population and Future Growth	• Wellington-North Community Growth Plan February 2018 • Wellington County Official Plan November 2017 • Statistics Canada 2016 Census • Wellington County 2016 DC Study • 2018 Development Charges Background Study • Information from Township on new development
Historical Employment Population and Future Growth	• Wellington-North Community Growth Plan February 2018 • Wellington County Official Plan November 2017 • Statistics Canada 2016 Census • Wellington County 2016 DC Study • 2018 Development Charges Background Study • Information from Township on new development • Input from staff
Household Projections	• Wellington-North Community Growth Plan February 2018 • Wellington County Official Plan November 2017 • Statistics Canada 2016 Census • Wellington County 2016 DC Study • 2018 Development Charges Background Study • Information from Township on new development • Input from staff
Historical Service Level Information	• The Township's PSAB 3150 Data • Information supplied by the Township • 2018 Development Charges Background Study
Growth Related Capital Costs	• Township's Capital Budget • 2018 Development Charges Background Study • Recreation Master Plan • Staff Input

Item	Data Source
Operating Costs	• Township's 2020 FIR • By-Law No. 059-18
Policies & Rules	• Council Direction • Input from staff

3 Step1: Development Charges Act 1997 (DCA) Requirements

3.1 General Requirements

In Ontario the governing legislation for development charges is the Development Charges Act (1997), O.Reg. 82/98 and O.Reg.192/07. The latter regulation applies only to the Toronto-York Subway Station and is not relevant to this background study.

The DCA Section 2 (1) allows municipalities to establish by-laws to impose development charges "against land to pay for increased capital costs required because of increased needs for services arising from development of the area to which the by-law applies". In accordance with the DCA Section 2(2),

A development charge may be imposed only for development that requires,

(a) *the passing of a zoning by-law or of an amendment to a zoning by-law under section 34 of the Planning Act;*

(b) *the approval of a minor variance under section 45 of the Planning Act;*

(c) *a conveyance of land to which a by-law passed under subsection 50 (7) of the Planning Act applies;*

(d) *the approval of a plan of subdivision under section 51 of the Planning Act;*

(f) *the approval of a description under section 9 of the Condominium Act, 1998; or*

(g) *the issuing of a permit under the Building Code Act, 1992 in relation to a building or structure. "*

The DCA and O.Reg. 82/98 are very prescriptive in the services and costs that can be included in the DC calculations and how the calculations are to be undertaken. They also prescribe the stakeholder consultation and other requirements for implementation of development charges.

In general the DCA and O.Reg.82/98 identify the following:

- The information must be presented in the background study
- The services for which DCs may be recovered
- The need to calculate the 10-year historical service levels to determine the maximum cost (cap) that may be included in the DC calculations. This does not apply to engineered services such as transportation, water, wastewater and stormwater.

- The requirement to determine "excess capacity" within the current services and whether or not such excess capacity is committed or available to facilitate new growth
- The period for forecasting costs. This is typically 10 years for most services but longer for others such as water, wastewater, stormwater, transportation, etc.
- The eligible and ineligible capital costs for inclusion in the DC calculations
- Required reductions to gross capital costs of DC related projects
- Creation and maintenance of dedicated reserve funds for each service
- Stakeholder consultation and notices and their timing
- The contents and effective period of the by-law (5 years)
- Protocol for appealing the proposed development charges
- Rules for collection of development charges including mandatory exemptions

Further details on the requirements of the DCA and O.Reg.82/98 are available by referencing these documents at www.ontario.ca/laws/statute/97d27 .

3.2 Prescribed Calculation Methodology

The methodology for calculating development charges is defined by the specific requirements of the DCA and O.Reg. 82/98 and is very consistent across Ontario.

The DCA Section 5(1) states that*: "The following is the method that must be used, in developing a development charge by-law, to determine the development charges that may be imposed:*

1. *The anticipated amount, type and location of development, for which development charges can be imposed, must be estimated.*

2. *The increase in the need for service attributable to the anticipated development must be estimated for each service to which the development charge by-law would relate.*

3. *The estimate under paragraph 2 may include an increase in need only if the council of the Township has indicated that it intends to ensure that such an increase in need will be met. The determination as to whether a council has indicated such an intention may be governed by the regulations.*

4. *The estimate under paragraph 2 must not include an increase that would result in the level of service exceeding the average level of that service provided in the Township over the 10-year period immediately preceding the preparation of the background study required under section 10. How the level of service and average level of service is determined may be*

governed by the regulations. The estimate also must not include an increase in the need for service that relates to a time after the 10-year period immediately following the preparation of the background study unless the service is set out in subsection (5).

5. *The increase in the need for service attributable to the anticipated development must be reduced by the part of that increase that can be met using the Township's excess capacity, other than excess capacity that the council of the Township has indicated an intention would be paid for by new development. How excess capacity is determined and how to determine whether a council has indicated an intention that excess capacity would be paid for by new development may be governed by the regulations.*

6. *The increase in the need for service must be reduced by the extent to which an increase in service to meet the increased need would benefit existing development. The extent to which an increase in service would benefit existing development may be governed by the regulations.*

7. *The capital costs necessary to provide the increased services must be estimated. The capital costs must be reduced by the reductions set out in subsection (2). What is included as a capital cost is set out in subsection (3). How the capital costs are estimated may be governed by the regulations.*

8. *Rules must be developed to determine if a development charge is payable in any particular case and to determine the amount of the charge, subject to the limitations set out in subsection (6).*

9. *The rules may provide for full or partial exemptions for types of development and for the phasing in of development charges. The rules may also provide for the indexing of development charges based on the prescribed index.*

4 Step 2: Policy Framework

4.1 Existing Development Charges By-Law No. 059-18

The existing DC By-Law No. 059-18 was approved by the Township's Council on June 17, 2018 and will remain effective until expiry on June 16, 2023 unless repealed and replaced. Some of the main features of the existing by-law include:

- Identifying the following services for which the DCs are currently collected:
  - Roads & Related;
  - Fire Protection;
  - Parks;
  - Recreation;

  - Administration;
  - Water;
  - Wastewater; and

- Establishing rules for exemptions, industrial buildings expansions and redevelopment of existing properties.
- Establishing DC reserve funds for each service;
- Collecting residential DCs on per "dwelling unit" the basis times the number of dwelling units;
- Setting residential DCs for the following types of dwelling units:
  - Single Detached Dwelling;
  - Semi-Detached Dwelling;
  - Apartments - 2 or more Bedrooms;
  - Apartments – Bachelor and 1 Bedroom; and
  - Other Multiples.
- Setting the DC for Semi- Detached Dwellings the same as the DC for Single Detached Dwelling;
- Collecting non-residential DCs on the basis of GFA which is consistent with industry practise;
- Setting non-residential DCs for the following types development:
  - Commercial Institutional;
  - Industrial;
  - Warehouse; and
  - Wind Turbines.
- Setting the DC for Wind Turbines the same as the DC for a Single Detached Dwelling for Municipal Wide Services;
- Setting the DC for Commercial/ Institutional at 100% of the calculated charges for Water and Wastewater;
- Setting the DC for Industrial at 50% of the calculated charges for Water and Wastewater;
- Setting the DC for Warehouses at 25% of the calculated charges for Water and Wastewater; and
- No Phasing in.

A copy of the existing DC By-law No. 059-18 is available on the Township's website at: by-law-no.-059-18-consolidated-development-charges.pdf (wellington-north.com)

4.2 Policy Direction

The policies used in preparing this draft were guided by the existing DC By-law 059-18 as described in Section 4.1 with the following differences:

- New service related to By-Law Enforcement was added

A Stakeholder Workshop was held on November 30th 2021 to provide members of Council and the development community with background information on development charges, policy items for consideration and solicit feedback. The statutory Public Meeting was held on February 10th 2022 to obtain public input on the draft Background Study and proposed DC By-law. There were no changes to policy items that came out of either the workshop or public meeting as noted in Appendix A.

5 Step 3: Services Eligible for Development Charges

The services identified for inclusion in the study are listed in Table 5-1. These met the eligibility criteria noted in O.Reg.82/98 Section 2.1.

Table 5-1: Eligible Services

Services Included in DC Calculations	
• Administrative Services - Studies • Roads & Related Services - Roads - Sidewalks & Streetlights - Bridges & Culverts - Facilities - Vehicles & Equipment • Park Services - Parkland Development - Parkland Amenities - Parkland Paths & Trails	• By-law Enforcement - Vehicles • Recreation Services - Recreation Facilities • Fire Protection Services - Facilities - Vehicles - Equipment • Water Services - Treatment - Storage & Distribution • Wastewater Services - Treatment - Collection

6 Step 4: Population and Employment Growth

The DCA Section 5(1) requires that *"the anticipated amount, type and location of development, for which development charges can be imposed, must be estimated".* Therefore estimating future growth in new households over the study period and the location of such growth is required for the calculations. Determination of net historical growth over the last 10 years is also required to determine the historical service levels. The projected net residential and employment population growth are used to determine the service level caps. Population growth in new households and employment growth are used to allocate costs between residential and non-residential growth and calculate the development charges on a per capita and per square foot basis for residential and non-residential respectively.

In Wellington County, provincial and regional planning direction for accommodating population and employment growth and related development is provided by the Provincial Policy Statement (PPS), the Growth Plan for the Greater Golden Horseshoe (Growth Plan) and the County of

Wellington Official Plan (County Plan). In 2013, the Province of Ontario released Amendment No. 2 to the Growth Plan 2006, outlining upgrades to the population and housing forecast.

Wellington County has prepared a population, household and employment forecast to 2041. The County Plan establishes the upper-tier, regional-level policy framework and implementation of the PPS and the Growth Plan. In the Township, the County Plan also serves as the local Official Plan for Wellington North.

Appendix B provides the residential and employment projections for:

- The 10-year historical period 2011 to 2020;
- The 10-year study period 2021 to 2030; and
- The build out period 2021 to 2041

The annual growth is assumed to be linear between the milestone years.

6.1 Municipal Wide Growth

Table 6-1 summarizes the growth in dwelling units and residential population over the next 10 years (2021 - 2030) and to build out (2021 -2041). The projections are based on growth information contained in the Township's Community Growth Plan (2018), Wellington County's Official Plan (2017), Wellington County's 2016 DC Study and Statistics Canada 2016 census data.

The residential population growth to be accommodated in new dwelling units over the 10-year period is projected to be 2,261 and 4,718 to build out. The growth in number of units is 793 over the next 10 years and 1,651 to build out. The net population growth considers the decline in population

Table 6-1: Municipal Wide Population Growth & Dwelling Units

Dwelling Type	Persons Per Unit (PPU)[1]	10-Year Development Charges Study Period (2021-2030)		Beyond 10 Years (2031-2041)		Total to Build Out (2021-2041)	
		No. of Units	Population Growth	No. of Units	Population Growth	No. of Units	Population Growth
Single Detached & Semis	3.19	540	1,724	592	1,887	1,132	3,611
Multiples	2.52	115	289	129	324	243	613
Apartments	1.79	138	247	138	247	276	494
Population Increase in New Units (GROSS)		**793**	**2,261**	**858**	**2,458**	**1,651**	**4,718**
Decline In Population [2]			(137)		(179)		(315)
Total Population Increase (NET)			**2,124**		**2,279**		**4,403**

1. County of Wellington DC Study Table 6-2. Apartments PPU is the average for all apartments

2. Population decline due to resident life cycle, economy,etc.

The employment growth projections over the same periods are 867 for the first 10 years and 1,459 to build out. These equate to an additional 708,140 ft^2 of Gross Floor Area in the first 10 years and 1,161,560 ft^2 to build out.

Table 6-2: Municipal Wide Employment Growth

Employment Sector	10-Year Development Charges Study Period (2021-2030)	Beyond 10 Years (2031-2041)	Total to Build Out (2021-2041)
Population			
Industrial Employment	289	163	452
Commercial Employment	507	373	880
Institutional Employment	71	56	127
Total Employment Population Increase	**867**	**591**	**1,459**
[1] Gross Floor Area (ft^2)			
Industrial Employment	404,880	227,920	632,800
Commercial Employment	253,700	186,300	440,000
Institutional Employment	49,560	39,200	88,760
Total GFA Increase (ft^2)	**708,140**	**453,420**	**1,161,560**

1. Based on GFA Per Employee from 2016 Wellington County DC Study, Table 9-b. (1400 ft^2 industrial; 700 ft^2 institutional; 500 ft^2 commercial)

The floor area was calculated based on the Wellington County DC Study 2016, Schedule 9-b. These were applied to the following employment densities which are consistent with the conversions used for the County's Development Charges Background Study, to arrive at the employment growth:

- 1,400 ft^2 per employee – industrial
- 500 ft^2 per employee – commercial employment
- 700 ft^2 per employee – institutional

6.2 Urban Area Growth

In keeping with the direction of the PPS and Growth Plan, and the policies of the County Plan, most of the future population and housing growth in the Township will be directed to the serviced urban areas of Mount Forest and Arthur. It is anticipated that the growth in the urban areas will be supported by the installation of new or expansion of existing water and wastewater systems, as necessary.

Tables 6-3 and 6-4 summarize the population and employment growth respectively in Arthur and Mount Forest over the next 10 years (2021 – 2030) and to build out (2021-2041). These allocations are based on the Growth Plan and growth projections contained in the County's DC Study Schedule 2-g.

The gross residential population growth to be accommodated in new units is projected to be 4,718 to build out. The employment growth estimate over the same period is 1,400 which is equivalent to a GFA of 1,115,098 ft^2. These urban area projections form the basis for the water and wastewater charges.

Table 6-3: Population Growth – Urban Areas

Growth Item	Persons Per Unit (PPU)[1]	Inside Urban Area - Arthur & Mount Forest		Outside Urban Area		Total	
		Units	Population	Units	Population	Units	Population
Single Detached & Semis	3.19	1,054	3,363	78	248	1,132	3,611
Multiples	2.52	219	552	24	61	243	613
Apartments	1.79	253	453	23	42	276	494
Population Growth (Gross)		1,526	4,367	125	351	1,651	4,718
Population Decline			(113)		(202)		(315)
Population Growth (Net)			4,254		149		4,403

Table 6-4: Employment Growth – Urban Areas

Employment Sector	Total to Build Out Urban Areas (2021-2041)
Population	
Industrial Employment[1]	434
Commercial Employment[2]	845
Institutional Employment[2]	122
Total Employment Population Increase	**1,400**
[3] Gross Floor Area (ft^2)	
Industrial Employment	607,488
Commercial Employment	422,400
Institutional Employment	85,210
Total GFA Increase (ft^2)	**1,115,098**

1.Wellington North Community Growth Plan 2018 - Section 3.4 Employment Growth Strategy

2.Prorated based on population in urban areas vs. municipal wide

3. GFA Per Employee from 2016 Wellington County DC Study, Table 9-b. (1400 ft2 industrial; 700 ft2 institutional; 500 ft2 commercial)

7 Step 5: Historical Service Levels

The DCA Section 5(1)4 limits the level of service to be provided to new customers to the same as the average level of service over the 10-year period immediately preceding the year of the new DC Background Study. This requirement ensures that improvements to existing service levels are not funded by the new development charges. Accordingly, the capital cost to be recovered through the development charges must not exceed an amount (referred to as the service level "cap") using the 10-year historical service level as the basis. This requirement applies to all eligible service except for administrative studies, water, wastewater and water and wastewater vehicles.

The amount of the cap is calculated by first determining the average historical cost per population. The inventory of historical services (e.g. facilities gross floor areas, number of units of equipment, etc.), current replacement costs and the historical populations are used to calculate the average historical service level. These satisfy the requirements of O.Reg. Section 4(1) which state that the quantity (number of units of equipment, etc.) and quality (e.g. cost per unit) of the services must be taken into account. The cap is calculated by multiplying the average service level (cost per population) by the projected population over the next 10 years. The inventory and replacement costs were provided by the Township.

The detailed tables showing the historical service level calculations for each service are included in Appendices C1 to C5. Table 7-1 summarizes the historical average service level for each eligible service. The service level cap for each service was used to adjust the capital costs in calculating the net to be recovered through the development charges. This is further described in Section 8.4. Service level caps do not apply to studies, water and wastewater.

Table 7-1: Average Historical Service Levels

Service	10 Year Historical Average Service Level Per Capita	Population Used
Administration - Studies	N/A	N/A
Parks Services	$ 781.07	Residential
Recreation Services	$ 2,934.66	Residential
By-Law Enforcement	$ 0.51	Residential and Employment
Fire Protection Services	$ 693.26	Residential and Employment
Roads and Related	$ 20,389.10	Residential and Employment
Water Servcies	N/A	N/A
Wastewater Services	N/A	N/A

8 Step 6: Net Growth-Related Capital Costs

This Section presents the capital investments required to facilitate the projected residential and employment growth. All required deductions and allowable adjustments were made in accordance with the DCA and O.Reg.82/98 to arrive at the net capital investment required for each service. The service level caps are applied to these amounts to identify the net costs to be

recovered from the development charges. The detailed calculations are presented by service in Appendices D1 to D8.

8.1 Step 6.1: Growth Related Capital Needs

Table 8-1 summarizes the gross capital needs for each service before required deductions and allowable adjustments were made. The respective periods over which these costs would be incurred for each service are also shown. The amounts shown are the costs of the projects that are required to facilitate growth as identified by staff and/or master servicing plans.

All or a portion of the funding for each of these projects would be from development charges. $25.1 million in capital investment (not including water and wastewater) is required to support future growth over the periods indicated. Additional investments of $18.0 million in the water systems and $25.6 million in wastewater systems would also be required in areas where these services would be offered. The total requirement is $68.6 million.

Table 8-1: Growth Related Capital Needs (Gross)

Service	Gross Cost	Period
Municipal Wide Services		
Administration - Studies	$ 175,000	2021 - 2030
Parks Services	$ 2,155,000	2021 - 2030
Recreation Services	$ 4,035,441	2021 - 2030
By-Law Enforcement	$ 10,000	2021 - 2030
Fire Protection Services	$ 2,100,000	2021 - 2030
Roads and Related	$ 16,580,860	2021 - 2041
Total Municipal Wide Services	**$ 25,056,301**	
Urban Services		
Water Servcies	$ 18,010,836	2021 - 2041
Wastewater Services	$ 25,554,557	2021 - 2041
Total Urban Services	**$ 43,565,393**	
Total	**$ 68,621,693**	

8.2 Step 6.2: Deductions

Table 8-2 summarizes the net capital needs for each service *after* making the required deductions. These deductions reduce the amounts recoverable from development charges and are in accordance with the requirements of the DCA and O.Reg.82/98.

The net recoverable amount after deductions is $7.2 million (not including water and wastewater) and $6.7 million for water and $20.2 million for wastewater. The total recoverable amount is $34.2 million. Appendix D shows the detailed deductions for each service.

Table 8-2: Net Recoverable Capital Costs after Deductions

Service	Gross Cost	Grants/ Subsidies	Benefit To Existing Development	Total Development Recoverable Costs Net of Stat. Deduction
Municipal Wide Services				
Administration - Studies	$ 175,000	$ -	$ 65,250	$ 109,750
Parks Services	$ 2,155,000	$ -	$ 1,661,700	$ 493,300
Recreation Services	$ 4,035,441	$ -	$ 2,784,000	$ 1,251,441
By-Law Enforcement	$ 10,000	$ -	$ 8,700	$ 1,300
Fire Protection Services	$ 2,100,000	$ -	$ 1,827,000	$ 273,000
Roads and Related	$ 16,580,860	$ 1,420,000	$ 10,056,039	$ 5,104,821
Total Municipal Wide Services	**$ 25,056,301**	**$ 1,420,000**	**$ 16,402,689**	**$ 7,233,612**
Urban Services				
Water Servcies	$ 18,010,836	$ -	$ 11,277,724	$ 6,733,112
Wastewater Services	$ 25,554,557	$ -	$ 5,368,242	$ 20,186,314
Total Urban Services	**$ 43,565,393**	**$ -**	**$ 16,645,966**	**$ 26,919,426**
Total	**$ 68,621,693**	**$ 1,420,000**	**$ 33,048,655**	**$ 34,153,038**

8.3 Step 6.3: Adjustments

Adjustments to the projected capital costs considered:

- Positive and negative reserve balances. Positive balances were deducted and negative balances added to the recoverable amounts;
- Adding amounts that were deemed to be "post period capacity" from the last study;
- Adding any credits owed to developers based on existing front-end agreements. In the Township's case there were no credits;

Table 8-3 summarizes the adjustments made. The only adjustments were to reduce the respective capital projections for each service by the amounts of existing positive reserve balances. There were no credits or post period capacity to be brought forward. The respective reserve fund balances are available cash that were applied to the growth-related costs to reduce the amount required from the new development charges. The total adjustments made were $1.3 million.

Table 8-3: Summary of Adjustments

Service	Post Period Capacity Carried Forward	Reserve Balance	Reserve Deficits	Credits
Municipal Wide Services				
Administration - Studies	$ -	$ 23,192	$ -	$ -
Parks Services	$ -	$ 20,757	$ -	$ -
Recreation Services	$ -	$ 97,055	$ -	$ -
Fire Protection Services	$ -	$ 184,206	$ -	$ -
Roads and Related	$ -	$ 493,936	$ -	$ -
Total Municipal Wide Services	**$ -**	**$ 819,145**	**$ -**	**$ -**
Urban Services				
Water Servcies	$ -	$ 255,042	$ -	$ -
Wastewater Services	$ -	$ 264,761	$ -	$ -
Total Urban Services	**$ -**	**$ 519,803**	**$ -**	**$ -**
Total Adjustments	**$ -**	**$ 1,338,948**	**$ -**	**$ -**

Table 8-4 summarizes the recoverable net capital for each service *after* making the required deductions *and* adjustments but before the service level caps were applied.

The net recoverable amount after deductions and adjustments is $6.4 million for municipal wide services and $6.5 million for water and $19.9 for wastewater. The total requirement is $32.8 million. The adjustments are also shown in Appendices D1 to D8 for each service.

Table 8-4: Net Recoverable Capital Costs after Deductions & Adjustments

Service	Total Development Recoverable Costs Net of Stat. Deduction	Adjustments	Total DC Eligible Costs for Recovery
Municipal Wide Services			
Administration - Studies	$ 109,750	$ 23,192	$ 86,558
Parks Services	$ 493,300	$ 20,757	$ 472,543
Recreation Services	$ 1,251,441	$ 97,055	$ 1,154,387
By-Law Enforcement	$ 1,300	$ -	$ 1,300
Fire Protection Services	$ 273,000	$ 184,206	$ 88,794
Roads and Related	$ 5,104,821	$ 493,936	$ 4,610,885
Total Municipal Wide Services	**$ 7,233,612**	**$ 819,145**	**$ 6,414,467**
Urban Services			
Water Servcies	$ 6,733,112	$ 255,042	$ 6,478,070
Wastewater Services	$ 20,186,314	$ 264,761	$ 19,921,553
Total Urban Services	**$ 26,919,426**	**$ 519,803**	**$ 26,399,624**
Total	**$ 34,153,038**	**$ 1,338,948**	**$ 32,814,090**

8.4 Step 6.4: Service Level Cap

The service level cap is calculated based on the historical service levels. It limits the amount of funding recoverable from the development charges for some services regardless of the net amounts after deductions and adjustments. The lower of the recoverable amounts net of deductions and adjustments or the service level cap were used to determine the development charges. Amounts that exceed the service level cap were deemed to be post period capacity which can be carried forward to the next study for consideration at that time.

Table 8-5: Application of Service Level Caps

Service	Gross Capital Needs	Net Capital Needs	Service Level Cap	Post Period Capital	Total DC Eligible Costs for Recovery
Municipal Wide Services					
Administration - Studies	$ 175,000	$ 86,558	$ -	$ -	$ 86,558
Parks Services	$ 2,155,000	$ 472,543	$ 1,658,984	$ -	$ 472,543
Recreation Services	$ 4,035,441	$ 1,154,387	$ 6,233,220	$ -	$ 1,154,387
By-Law Enforcement	$ 10,000	$ 1,300	$ 2,970	$ -	$ 1,300
Fire Protection Services	$ 2,100,000	$ 88,794	$ 2,073,820	$ -	$ 88,794
Roads and Related	$ 16,580,860	$ 4,610,885	$ 60,991,951	$ -	$ 4,610,885
Total Municipal Wide Services	**$ 25,056,301**	**$ 6,414,467**	**$ 70,960,945**	**$ -**	**$ 6,414,467**
Urban Services					
Water Servcies	$ 18,010,836	$ 6,478,070	$ -	$ -	$ 6,478,070
Wastewater Services	$ 25,554,557	$ 19,921,553	$ -	$ -	$ 19,921,553
Total Urban Services	**$ 43,565,393**	**$ 26,399,624**	**$ -**	**$ -**	**$ 26,399,624**
Total Adjustments	**$ 68,621,693**	**$ 32,814,090**	**$ 70,960,945**	**$ -**	**$ 32,814,090**

Table 8-5 summarizes the service level caps, recoverable amounts through the development charges and any post period capacity to be carried forward to the next study. The net capital needs were below the caps for each service and were the final amounts used to calculate the development charges as described in Section 9. The service level caps do not apply to studies, water and wastewater. The net recoverable amount after deductions and adjustments and application of the service level caps is $6.4 million for municipal wide services and $6.5 million for water and $19.9 million for wastewater. The detailed calculations for each service are presented in Appendices D1 to D8.

8.5 Council Approval of Capital Investments

O.Reg.82/98 Section 3 requires that municipal councils demonstrate their intention to meet the increase in need for capital expenditures related to growth otherwise such capital costs cannot be included in the calculations. Therefore it is recommended that Council approve the capital forecasts noted in Section 8.1 and provided in Appendix D to confirm its intention to meet the growth requirements.

9 Step 7: Calculation of Development Charges

This section presents the calculation of the residential and non-residential development charges based on the net recoverable growth-related capital costs determined in the previous sections of this report.

9.1 Step 7.1: Allocation of Costs to Residential & Non-Residential Growth

Many of the services provided by the Township benefit both the residential and non-residential sectors. The costs to be recovered for these services were allocated to the residential and non-residential sectors on the basis of each sector's proportionate share of total net residential and employment population growth. Some services such as parks and recreation services are geared to the residential sector. However the non-residential sector would still have access to these services so the costs were allocated 95% to residential and 5% non-residential.

Table 9-1 shows the allocations for each service. The residential share of the municipal wide costs to be recovered (not including water and wastewater) is $5.0 million and the non-residential share $1.4 million. The residential and non-residential shares of the water costs are a $4.9 million and $1.6 million respectively. The residential and non-residential shares of the wastewater costs are $15.1 million and $4.8 million respectively.

Table 9-1: Allocation of Costs to Residential & Non-Residential

Service	Net Capital Needs to be Recovered	Residential Share	Non-Residential Share	Basis for Allocation
Municipal Wide Services				
Administration - Studies	$ 86,558	$ 62,555	$ 24,003	% of Population and Employment Growth
Parks Services	$ 472,543	$ 448,916	$ 23,627	95% residential - 5% non residential
Recreation Services	$ 1,154,387	$ 1,096,667	$ 57,719	95% residential - 5% non residential
By-Law Enforcement	$ 1,300	$ 940	$ 360	% of Population and Employment Growth
Fire Protection Services	$ 88,794	$ 64,171	$ 24,623	% of Population and Employment Growth
Roads and Related	$ 4,610,885	$ 3,332,258	$ 1,278,627	% of Population and Employment Growth
Total Municipal Wide Services	**$ 6,414,467**	**$ 5,005,506**	**$ 1,408,960**	
Urban Services				
Water Servcies	$ 6,478,070	$ 4,905,127	$ 1,572,943	% of Population and Employment Growth
Wastewater Services	$ 19,921,553	$ 15,084,391	$ 4,837,162	% of Population and Employment Growth
Total Urban Services	**$ 26,399,624**	**$ 19,989,518**	**$ 6,410,106**	
Total Adjustments	**$ 32,814,090**	**$ 24,995,024**	**$ 7,819,066**	

9.2 Step 7.2: Unadjusted Development Charge Rates

Development charge rates were calculated on a per capita (population) basis for the residential sector by dividing the costs allocated to residential by the net residential population growth.

Similarly, the non-residential rates were calculated by dividing the non-residential cost allocations by the growth in gross floor area to arrive at a cost per ft^2. These resulted in the preliminary unadjusted residential and non-residential rates prior to undertaking the cash flow analyses. These rates were subsequently adjusted as described in Section 9.3.

Table 9-2: Unadjusted Residential & Non-Residential Rates

Service	Residential			Non-Residential		
	Cost	Growth in Population	Rate (Cost/Capita)	Cost	Growth in Floor Area (Square Foot)	Rate (Cost/ft^2)
Municipal Wide Services						
Administration - Studies	$ 62,555	2,261	$ 27.67	$ 24,003	708,140	$ 0.03
Parks Services	$ 448,916	2,261	$ 198.59	$ 23,627	708,140	$ 0.03
Recreation Services	$ 1,096,667	2,261	$ 485.13	$ 57,719	708,140	$ 0.08
By-Law Enforcement	$ 940	2,261	$ 0.42	$ 360	708,140	$ 0.00
Fire Protection Services	$ 64,171	2,261	$ 28.39	$ 24,623	708,140	$ 0.03
Roads and Related	$ 3,332,258	4,718	$ 706.22	$ 1,278,627	1,161,560	$ 1.10
Total Municipal Wide Services	**$ 5,005,506**		**$ 1,446.42**	**$ 1,408,960**		**$ 1.28**
Urban Services						
Water Servcies	$ 4,905,127	4,367	$ 1,123.17	$ 1,572,943	1,115,098	$ 1.41
Wastewater Services	$ 15,084,391	4,367	$ 3,454.01	$ 4,837,162	1,115,098	$ 4.34
Total Urban Services	**$ 19,989,518**		**$ 4,577.18**	**$ 6,410,106**		**$ 5.75**
Total Adjustments	**$ 24,995,024**		**$ 6,023.60**	**$ 7,819,066**		**$ 7.03**

Table 9-2 shows the unadjusted residential and non-residential rates by service. Assumptions used in the calculation of gross floor area related to industrial, commercial and institutional employment are consistent with the assumptions used in the County's development charge study.

9.3 Step 7.3: Cash Flow Analyses

Cash flow analyses were undertaken over the 10-year period 2021 to 2030 for services with a 10-year study period. A 21-year cash flow period was used for the other services. These analyses considered the transfers in and out of the respective reserve fund for each service and their timing. Cash outflows were according to the projected capital expenditures. Cash inflows were calculated by multiplying the projected annual residential population growth by the unadjusted rate per capita and adding the product of the non-residential growth in floor area and the unadjusted rate per square metre. The rates were increased by inflation assumed at 2% per year. The objective of undertaking the cash flow analyses is to ensure that the rates are sufficient to result in a zero net cash flow at the end of the 10-year period. The rates were adjusted to achieve this objective. Appendices E1 to E8 provides a cash flow table for each service.

The adjusted rates are summarized in Table 9-3. The total residential rate for municipal wide services was calculated to be $1,454.82 per capita and the non-residential rate $1.29 per ft^2. The rates for water were determined to be $1,131.71 per capita and $1.41 per ft^2 for residential and non-residential respectively. The rates for wastewater were determined to be $3,503.11 per capita and $4.37 per ft^2 for residential and non-residential respectively.

Table 9-3: Adjusted Residential & Non-Residential Rates (After Cash Flow Analysis)

Service	Residential Rate (Cost/Capita)	Non-Residential Rate (Cost/ft^3)
Municipal Wide Services		
Administration - Studies	$ 27.51	$ 0.03
Parks Services	$ 197.53	$ 0.03
Recreation Services	$ 488.19	$ 0.08
By-Law Enforcement	$ 0.42	$ 0.00
Fire Protection Services	$ 27.21	$ 0.03
Roads and Related	$ 713.97	$ 1.11
Total Municipal Wide Services	**$ 1,454.84**	**$ 1.29**
Urban Services		
Water Servcies	$ 1,131.71	$ 1.41
Wastewater Services	$ 3,503.11	$ 4.37
Total Urban Services	**$ 4,634.82**	**$ 5.78**
Total Adjustments	**$ 6,089.66**	**$ 7.07**

9.4 Step 7.4: Proposed Development Charges

The non-residential development charges are the adjusted rates per square foot calculated as described in Section 9.3. The residential development charges by type of dwelling unit were calculated using the adjusted rate per capita and the respective household size estimates noted in Table 9-4 for each type of dwelling unit. The household sizes are based on the Statistics Canada 2016 Census data and the County's Development Charges Study. These calculations were undertaken for each service and type of dwelling and are consistent with the requirements of O.Reg. 82/98 Section (2).

Table 9-4: Occupancy by Type of Dwelling Unit

Type of Dwelling Unit	Occupancy - Persons per Unit (PPU)
Single Detached & Semi- Detached	3.19
Apartments – 2 or More Bedrooms	2.07
Apartments – Bachelor & 1 Bedroom	1.51
Other Multiples	2.52

The proposed residential development charges by unit type are listed in Table 9-5 for each service. The development charge for a single detached dwelling was calculated to be $4,641 for the municipal wide services and $14,785 for water and wastewater. The rate for the Other Multiples (Specific) is based on the policy noted in Section 4.2.

Table 9-5: Proposed Residential Development Charges

Service	RESIDENTIAL			
	Single/Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments-Bachelor and 1 bedroom	Other Multiples
Municipal Wide Services				
Administration - Studies	$ 87.77	$ 56.96	$ 41.55	$ 69.34
Parks Services	$ 630.11	$ 408.88	$ 298.26	$ 497.76
Recreation Services	$ 1,557.31	$ 1,010.54	$ 737.16	$ 1,230.23
By-Law Enforcement	$ 1.35	$ 0.88	$ 0.64	$ 1.07
Fire Protection Services	$ 86.81	$ 56.33	$ 41.09	$ 68.58
Roads and Related	$ 2,277.58	$ 1,477.93	$ 1,078.10	$ 1,799.21
Total Municipal Wide Services	**$ 4,640.93**	**$ 3,011.51**	**$ 2,196.80**	**$ 3,666.19**
Urban Services				
Wastewater Services	$ 11,174.93	$ 7,251.44	$ 5,289.70	$ 8,827.85
Water Services	$ 3,610.15	$ 2,342.63	$ 1,708.88	$ 2,851.90
Total Urban Services	**$ 14,785.08**	**$ 9,594.08**	**$ 6,998.58**	**$ 11,679.75**
GRAND TOTAL RURAL AREA	$ 4,640.93	$ 3,011.51	$ 2,196.80	$ 3,666.19
GRAND TOTAL URBAN AREA	**$ 19,426.01**	**$ 12,605.59**	**$ 9,195.38**	**$ 15,345.94**

The non-residential rates by type of development are noted in Table 9-6. These are based on the policies and rules noted in Section 4.2.

Table 9-6: Proposed Non-Residential Development Charges

Service	NON-RESIDENTIAL			
	Commercial/ Institutional (per ft^2 of Gross Floor Area)	Industrial		
		Industrial (per ft^2 of Gross Floor Area)	Warehouse (per ft^2 of Gross Floor Area)	Wind Turbine
Municipal Wide Services				
Administration - Studies	$ 0.03	$ 0.02	$ 0.01	$ 87.77
Parks Services	$ 0.03	$ 0.02	$ 0.01	$ 630.11
Recreation Services	$ 0.08	$ 0.04	$ 0.02	$ 1,557.31
By-Law Enforcement	$ 0.00	$ 0.00	$ 0.00	$ 1.35
Fire Protection Services	$ 0.03	$ 0.02	$ 0.01	$ 86.81
Roads and Related	$ 1.11	$ 0.55	$ 0.28	$ 2,277.58
Total Municipal Wide Services	**$ 1.29**	**$ 0.64**	**$ 0.32**	**$ 4,640.93**
Urban Services				
Wastewater Services	$ 4.37	$ 2.19	$ 1.09	$ -
Water Services	$ 1.41	$ 0.71	$ 0.35	$ -
Total Urban Services	**$ 5.78**	**$ 2.89**	**$ 1.45**	**$ -**
GRAND TOTAL RURAL AREA	$ 1.29	$ 0.64	$ 0.32	$ 4,640.93
GRAND TOTAL URBAN AREA	**$ 7.07**	**$ 3.54**	**$ 1.77**	**$ 4,640.93**

All charges will be subject to annual indexing in accordance with O.Reg.82/98.

10 Step 8: Comparison of Development Charges

10.1 Comparison with Existing Development Charges

Table 10-1 compares the proposed residential development charges with the existing charges. The charge for Single-detached and Semi-detached dwellings was calculated to be higher than the existing charge by $1,568 for municipal wide services. There are also similar increases for the other dwelling types. There is however and a reduction for Single and Semi-Detached dwellings of $1,152 for urban services, with similar declines for the other dwelling types.

Table 10-1: Proposed vs. Existing Residential Development Charges

Service	RESIDENTIAL			
	Single/ Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments- Bachelor and 1 bedroom	Other Multiples
EXISTING CHARGES				
Total Municipal Wide Services	$ 3,073.18	$ 1,994.00	$ 1,454.69	$ 1,930.67
Total Urban Services	$ 15,936.64	$ 10,341.33	$ 7,543.68	$ 12,589.45
GRAND TOTAL URBAN AREA	**$ 19,009.82**	**$ 12,335.33**	**$ 8,998.37**	**$ 14,520.12**
CALCULATED CHARGES				
Total Municipal Wide Services	$ 4,640.93	$ 3,011.51	$ 2,196.80	$ 3,666.19
Total Urban Services	$ 14,785.08	$ 9,594.08	$ 6,998.58	$ 11,679.75
GRAND TOTAL URBAN AREA	**$ 19,426.01**	**$ 12,605.59**	**$ 9,195.38**	**$ 15,345.94**
DIFFERENCE				
Total Municipal Wide Services	$ 1,567.75	$ 1,017.51	$ 742.11	$ 1,735.52
Total Urban Services	$ (1,151.56)	$ (747.25)	$ (545.10)	$ (909.70)
GRAND TOTAL URBAN AREA	**$ 416.19**	**$ 270.26**	**$ 197.01**	**$ 825.82**

Table 10-2 compares the proposed non-residential development charges with the existing charges. The charges for Commercial/ Institutional, Industrial & Warehouse within the urban area are higher compared to the existing charges. The charges outside the urban area are lower. The wind turbine charge is higher by $1,568.

Table 10-2: Proposed vs. Existing Non-Residential Development Charges

Service	NON-RESIDENTIAL			
	Commercial/ Instituitional (per ft2 of Gross Floor Area)	Industrial (per ft^2 of Gross Floor Area)	Warehouse (per ft^2 of Gross Floor Area)	Wind Turbine
EXISTING CHARGES				
Total Municipal Wide Services	$ 0.78	$ 0.40	$ 0.20	$ 3,073
Total Urban Services	$ 6.72	$ 3.34	$ 1.69	$ -
GRAND TOTAL URBAN AREA	**$ 7.50**	**$ 3.74**	**$ 1.89**	**$ 3,073**
CALCULATED CHARGES				
Total Municipal Wide Services	$ 1.29	$ 0.64	$ 0.32	$ 4,641
Total Urban Services	$ 5.78	$ 2.89	$ 1.45	$ -
GRAND TOTAL URBAN AREA	**$ 7.07**	**$ 3.54**	**$ 1.77**	**$ 4,641**
DIFFERENCE				
Total Municipal Wide Services	$ 0.51	$ 0.24	$ 0.12	$ 1,568
Total Urban Services	$ (0.94)	$ (0.45)	$ (0.24)	$ -
GRAND TOTAL URBAN AREA	**$ (0.43)**	**$ (0.20)**	**$ (0.12)**	**$ 1,567.75**

11 Step 9: Long-Term Capital and Operating Costs Implications

This section presents the long-term cost implications of the investments to accommodate future growth. These assessments considered the implications to future operating and capital costs as well as the costs related to future asset renewal. The detailed projections are provided in Appendix F.

11.1 Long-Term Operating Costs

The long-term operating cost impacts were based on historical operating costs noted in the Township's FIR reporting and the projected increase in growth. Table 11-1 summarizes the increase in operating costs due to the addition of the new growth-related assets in each service area. The total 10-year increase in operating costs is estimated to be $15.9 million.

Table 11-1: Operating Cost Implications

Cummulative Net Operating Impacts Service	Total
Administration - Studies	$ -
Parks Services	$ 1,064,318
Recreation Services	$ 2,884,771
By-Law Enforcement	
Fire Protection Services	$ 2,682,396
Roads and Related	$ 2,224,399
Water Servcies	$ 1,249,088
Wastewater Services	$ 5,837,731
Total Cummulative Net Operating Impacts	**$ 15,942,703**

11.2 Long-term Capital Costs

The long-term capital cost impacts were determined to be the growth-related costs not funded by development charges due to deductions. These amounts include the "benefit to existing" amounts shown in Appendix D and would be funded through either taxes or the water and wastewater rates as the case may be. Table 11-2 summarizes the increase in capital costs (not funded through development charges) due to the addition of the new growth-related assets in each service area. The total increase in capital costs for the tax supported services is estimated to be $16.4 million. The increase for the rate supported services (water and wastewater) is $16.6 million.

Table 11-2: Capital Cost Implications

Cummulative Net Capital Cost Impacts Service	Total
Administration - Studies	$ 65,250
Parks Services	$ 1,661,700
Recreation Services	$ 2,784,000
By-Law Enforcement	$ 8,700
Fire Protection Services	$ 1,827,000
Roads and Related	$ 10,056,039
Water Servcies	$ 11,277,724
Wastewater Services	$ 5,368,242
Total Capital Cost Impacts	**$ 33,048,655**

11.3 Asset Management Plan

The DCA Section 10(2) requires that an asset management plan be included in the Development Charges Background Study to capture the costs required to sustain the new growth-related assets over the long-term. This plan reflects the annual investments required to renew and replace the assets as they age. The capital cost estimates were annualized over the estimated life expectancies based on future cost in projected the year of replacement. The estimated life expectancies used for the purpose of this study were based on the Estimated Useful Life Chart

contained in the Township's Tangible Capital Asset Reporting Policy. The total 10-year asset management requirements estimated to be $8.9 million, with $5.5 million relate to tax supported assets and $3.4 million to rate supported assets.

Table 11-3: Asset Management Cost Implications

Cummulative Lifecycle Impacts By Service	Total
Administration - Studies	$ -
Parks Services	$ 478,789
Recreation Services	$ 1,170,075
By-Law Enforcement	$ 10,220
Fire Protection Services	$ 632,263
Roads and Related	$ 3,201,220
Wastewater Services	$ 2,483,946
Water Services	$ 941,128
Total	**$ 8,917,640**

12 Step 10: Background Study & By-Law

This background study report was prepared to provide the detail required in accordance with the DCA Section (10) and O.Reg.82/98 Section (8). The draft by-law is included in the study as Appendix G. The by-law identifies the services included, rules that apply to the development charges and schedule of applicable residential and non-residential development charges. The study and by-law will be revised based on Council the stakeholder consultation described in Section 13 prior to being finalized for approval by Council.

13 Step 11: Stakeholder Consultation

The DCA Section 10(4) requires that the Draft Development Charges Study and the Draft By-Law be made available to the public for review at least 60 days in advance of the by-law taking effect. This step in the process provides the opportunity for interested parties to make representations on the Draft Development Charges Study and proposed by-law prior to finalization and implementation.

The legislation prescribes that Council conduct a public meeting with at least 20 days' notice of the meeting. In accordance with O. Reg. 82/98, Section 9 (1) notice may be by publication in a local newspaper, which in the Clerk's opinion, has with sufficient general circulation across the Township or by personal service, mail or fax to every landowner.

On November 30th 2021 a Stakeholder Workshop was held with Council and the development community to solicit input. The statutory Public Meeting was held on February 10th 2022. A report detailing the stakeholder and public meetings is included in Appendix H.

14 Step 12: By-Law Adoption & Implementation

The final background study and by-law has been prepared following the Public Meeting (as described in Section 13) and will be presented to Council for approval. In accordance with the DCA Section 13, written notice of the passing of the DC by-law will be given no later than 20 days after the day the by-law is passed (i.e. as of the day of newspaper publication or the mailing of the notice). The O.reg.82/98 Section 10(4) lists the items that must be covered in the notice.

A pamphlet will also be prepared in accordance with O.Reg.82/98 Section 14 within 60 days of the passing of the by-law and include the following:

- a description of the general purpose of the DCs;
- the "rules" for determining if a charge is payable in a particular case and for determining the amount of the charge;
- the services to which the DCs relate; and
- a general description of the general purpose of the Treasurer's statement and where it may be obtained by the public.

15 Recommendations

The following are the recommendations are presented for consideration by the Township.

1. That the Development Charges Background Study and Development Charges By-Law as presented be approved by Council.
2. That following approval of the background study and by-law, the required notices be issued to the public and stakeholders and a pamphlet be prepared, in accordance with O.Reg.82/98.
3. That the growth-related capital projects forecast identified in the Development Charges Background Study be approved by Council as a statement of its intention to meet the increased need for service due to growth, as required under O.Reg.82/98 Section 3.
4. That any excess capacity created as a result of undertaking the growth-related capital projects identified in this background study would be paid for by development charges and therefore deemed to be "committed" in accordance with the requirements of O.Reg.82/98 Section (5).

APPENDICIES

Appendix A

POLICY ITEMS TO BE CONSIDERED BY COUNCIL
(No change in policy was made in this review)

Appendix B

GROWTH PROJECTIONS

Persons Per Unit by Dwelling Type

Type of Dwelling	Persons per Unit (PPU)
Single-Detached & Semi-detached	3.19
Apartments - 2 or More Bedrooms	2.07
Apartments - Bachelor & 1Bedroom	1.51
Other Multiples	2.52
Total	

1. 2017 Wellington County DC Study, Table 6-2

Projected Number of Households (10 Years)

	10-Year Development Charges Study Period (2021-2030)									
Growth Item	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Single Detached & Semis	3,818	3,876	3,933	3,991	4,048	4,106	4,155	4,204	4,252	4,301
Increase	57	58	58	58	58	58	49	49	49	49
% Increase	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.2%	1.2%	1.2%	1.1%
Multiples	305	316	328	339	351	362	375	387	400	412
Increase	7	11	11	11	11	11	13	13	13	13
% Increase	2.5%	3.7%	3.6%	3.5%	3.4%	3.3%	3.5%	3.4%	3.3%	3.2%
Apartments	721	729	737	744	752	760	782	804	826	848
Increase	11	8	8	8	8	8	22	22	22	22
% Increase	1.6%	1.1%	1.1%	1.1%	1.0%	1.0%	2.9%	2.8%	2.7%	2.7%
Other	170	170	170	170	170	170	170	170	170	170
Increase	-	-	-	-	-	-	-	-	-	-
% Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Households	5,014	5,091	5,168	5,244	5,321	5,398	5,481	5,565	5,648	5,732

1. Wellington North Community Growth Plan 2018 for total households; 2017 Wellington County DC Study, Schedule 2-G for breakdown

2. 2006 to 2015 from 2013 Wellington North DC Study, Table 3-1

Projected Number of Households (Beyond 10 Years to Build Out)

	Build Out (2031-2041)										
Growth Item	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
Single Detached & Semis	4,350	4,422	4,494	4,567	4,639	4,711	4,747	4,784	4,820	4,856	4,893
Increase	49	72	72	72	72	72	36	36	36	36	36
% Increase	1.1%	1.7%	1.6%	1.6%	1.6%	1.6%	0.8%	0.8%	0.8%	0.8%	0.7%
Multiples	425	440	456	471	487	502	510	518	525	533	541
Increase	13	15	15	15	15	15	8	8	8	8	8
% Increase	3.1%	3.6%	3.5%	3.4%	3.3%	3.2%	1.6%	1.5%	1.5%	1.5%	1.5%
Apartments	870	885	901	916	932	947	955	963	970	978	986
Increase	22	15	15	15	15	15	8	8	8	8	8
% Increase	2.6%	1.8%	1.7%	1.7%	1.7%	1.7%	0.8%	0.8%	0.8%	0.8%	0.8%
Other	170	170	170	170	170	170	170	170	170	170	170
Increase	-	-	-	-	-	-	-	-	-	-	-
% Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Households	5,815	5,918	6,021	6,124	6,227	6,330	6,382	6,434	6,486	6,538	6,590

1. Wellington North Community Growth Plan 2018 for total households; 2017 Wellington County DC Study, Schedule 2-G for breakdown

2. 2006 to 2015 from 2013 Wellington North DC Study, Table 3-1

Households Summary

Growth Item	2021-2030	2031-2041	Total
Single Detached & Semis	540	592	1,132
Multiples	115	129	243
Apartments	138	138	276
Other	-	-	-
Total Households	793	858	1,651

APPENNDIX B: GROWTH PROJECTIONS

Historical Population (Last 10 Years)

	10-Year Historical									
Growth Item	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Census Population (Ex**cluding** undercount)	11,477	11,564	11,652	11,739	11,827	11,914	12,120	12,326	12,533	12,739
	60	87	87	87	87	87	206	206	206	206
% Increase	0.5%	0.8%	0.8%	0.8%	0.7%	0.7%	1.7%	1.7%	1.7%	1.6%
Census Population (In**cluding** undercount)	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282
	64	108	108	108	108	108	198	198	198	198
% Increase	0.5%	0.9%	0.9%	0.9%	0.9%	0.9%	1.6%	1.6%	1.5%	1.5%
Population Growth (EXCLUDING Undercount)	**2011 to 2020 Growth**						**1,322**			
Population Growth (INCLUDING Undercount)	**2011 to 2020 Growth**						**1,396**			

Projected Population Growth (10 Years)

	10-Year Development Charges Study Period									
Growth Item	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Census Population (Ex**cluding** undercount)	12,945	13,159	13,373	13,586	13,800	14,014	14,211	14,408	14,605	14,802
	206	214	214	214	214	214	197	197	197	197
% Increase	1.6%	1.7%	1.6%	1.6%	1.6%	1.5%	1.4%	1.4%	1.4%	1.3%
Census Population (In**cluding** undercount)	13,480	13,702	13,924	14,146	14,368	14,590	14,794	14,998	15,202	15,406
	198	222	222	222	222	222	204	204	204	204
% Increase	1.5%	1.6%	1.6%	1.6%	1.6%	1.5%	1.4%	1.4%	1.4%	1.3%
Population Growth (EXCLUDING Undercount)	**2021 to 2030 Growth**						**2,063**			
Population Growth (INCLUDING Undercount)	**2021 to 2030 Growth**						**2,124**			

Wellington North Community Growth Plan 2018

Projected Population Growth (Beyond 10 Years to Build Out)

	Projections to Build Out										
Growth Item	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
Census Population (Ex**cluding** undercount)	14,999	15,282	15,564	15,847	16,129	16,412	16,527	16,643	16,758	16,873	16,988
	197	283	283	283	283	283	115	115	115	115	115
% Increase	1.3%	1.9%	1.8%	1.8%	1.8%	1.8%	0.7%	0.7%	0.7%	0.7%	0.7%
Census Population (In**cluding** undercount)	15,610	15,905	16,200	16,495	16,790	17,085	17,205	17,325	17,445	17,565	17,685
	204	295	295	295	295	295	120	120	120	120	120
% Increase	1.3%	1.9%	1.9%	1.8%	1.8%	1.8%	0.7%	0.7%	0.7%	0.7%	0.7%
Population Growth (EXCLUDING Undercount)	**2031 to 2041 Growth**										**2,186**
Population Growth (INCLUDING Undercount)	**2031 to 2041 Growth**										**2,279**

Wellington North Community Growth Plan 2018

APPENNDIX B: GROWTH PROJECTIONS

Projected Employment Population & Floor Space (Next 10 Years)

	10-Year Development Charges Study Period									
Growth Item	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Employment Population (Gross)	7,633	7,745	7,858	7,970	8,083	8,195	8,308	8,420	8,533	8,645
Increase	113	113	113	113	113	113	113	113	113	113
% Increase	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%
Total Employment Population Growth for Period	**2021 to 2030 Growth**						**1,125**			
Annual Employment Population Growth by Sector Excluding NFPOW										
Industrial Employment Land	21	21	26	26	26	26	26	39	39	39
Commercial Population Related	46	46	57	57	57	57	57	44	44	44
Institutional	0.4	0.4	12	12	12	12	12	4	4	4
Annual Employment Pop Growth	67	67	94	94	94	94	94	87	87	87
Employment Population Growth for Period	**2021 to 2030 Growth**						**867**			
Annual Gross Floor Area (GFA) Growth by Sector (sf)										
Industrial Employment Land	29,400	29,400	36,120	36,120	36,120	36,120	36,120	55,160	55,160	55,160
Commercial Population Related	23,000	23,000	28,400	28,400	28,400	28,400	28,400	21,900	21,900	21,900
Institutional	280	280	8,120	8,120	8,120	8,120	8,120	2,800	2,800	2,800
Total Annual GFA Growth (sf)	52,680	52,680	72,640	72,640	72,640	72,640	72,640	79,860	79,860	79,860
GFA Growth (sf) for Period	**2021 to 2030 Growth**						**708,140**			
Gross Floor Area (GFA) Per Employee (sf/employee)										
Industrial Employment Land	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Commercial Population Related	500	500	500	500	500	500	500	500	500	500
Institutional	700	700	700	700	700	700	700	700	700	700

1. GFA Projections interpolated/extrapolated as the case may be from information in Wellington County DC Study, Table 9-b.

2. GFA Per Employee from 2016 Wellington County DC Study, Table 9-b. GFA prior to 2016 from Wellington North 2013 DC Study Schedule 1

3. Employment Population between 2016 and 2041 interpolated from Wellington North Community Growth Plan, Table 1.

4. Employment Populations with and without NFPOW prior to 2016 interpolated from Wellington North 2013 DC Study Appendix A Schedule 10-b

APPENNDIX B: GROWTH PROJECTIONS

Projected Employment Population & Floor Space (Beyond 10 Years to Build Out)

	Projections to Build Out										
Growth Item	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
Employment Population (Gross)	8,758	8,870	8,983	9,095	9,208	9,320	9,344	9,368	9,392	9,416	9,440
Increase	113	113	113	113	113	113	24	24	24	24	24
% Increase	1.3%	1.3%	1.3%	1.3%	1.2%	1.2%	0.3%	0.3%	0.3%	0.3%	0.3%
Total Employment Population Growth for Period									**2031 to 2041 Growth**		**795**
Annual Employment Population Growth by Sector Excluding NFPOW											
Industrial Employment Land	39	39	22	22	22	22	22	(6)	(6)	(6)	(6)
Commercial Population Related	44	44	41	41	41	41	41	21	21	21	21
Institutional	4	4	17	17	17	17	17	(9)	(9)	(9)	(9)
Annual Employment Pop Growth	87	87	79	79	79	79	79	6	6	6	6
Employment Population Growth for Period									**2031 to 2041 Growth**		**591**
Annual Gross Floor Area (GFA) Growth by Sector (sf)											
Industrial Employment Land	55,160	55,160	30,520	30,520	30,520	30,520	30,520	(8,750)	(8,750)	(8,750)	(8,750)
Commercial Population Related	21,900	21,900	20,300	20,300	20,300	20,300	20,300	10,250	10,250	10,250	10,250
Institutional	2,800	2,800	11,620	11,620	11,620	11,620	11,620	(6,125)	(6,125)	(6,125)	(6,125)
Total Annual GFA Growth (sf)	79,860	79,860	62,440	62,440	62,440	62,440	62,440	(4,625)	(4,625)	(4,625)	(4,625)
GFA Growth (sf) for Period									**2031 to 2041 Growth**		**453,420**
Gross Floor Area (GFA) Per Employee (sf/employee)											
Industrial Employment Land	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Commercial Population Related	500	500	500	500	500	500	500	500	500	500	500
Institutional	700	700	700	700	700	700	700	700	700	700	700

1. GFA Projections interpolated/extrapolated as the case may be from information in Wellington County DC Study, Table 9-b.

2. GFA Per Employee from 2016 Wellington County DC Study, Table 9-b. GFA prior to 2016 from Wellington North 2013 DC Study Schedule 10-b

3. Employment Population between 2016 and 2041 interpolated from Wellington North Community Growth Plan, Table 1.

4. Employment Populations with and without NFPOW prior to 2016 interpolated from Wellington North 2013 DC Study Appendix A Schedule 10-b

Appendix C

HISTORICAL SERVICE LEVEL CALCULATIONS

Appendix C-1
Table 1
Township of Wellington North
Calculation of Service Standards
Parks (Parkland Development)

Unit Measure: $/acre
Inventory (No. Acres) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Unit)
Mount Forest Parkland:											
Birmingham Street Park	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	$ 63,152
Fairgrounds	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	$ 55,419
lions Club Park	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	$ 63,152
Cork Street Park	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	$ 55,419
Angus Smith Park	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	$ 63,152
Murphy Park	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	$ 63,152
Conn Park	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	$ 63,152
Arthur Parkland:											
Community Park and Marvin	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	$ 63,152
Howe Trail	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	$ 63,152
Arthur Lions Park	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	$ 63,152
Arthur Optimist Park	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	$ 55,419
Total	**48.6**	**48.6**	**48.6**	**48.6**	**48.6**	**48.6**	**48.6**	**48.6**	**48.6**	**48.6**	
Total Value($)	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	**$ 2,797,009**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Value Per Capita ($)	$ 234.06	$ 231.96	$ 229.90	$ 227.88	$ 225.89	$ 223.94	$ 220.45	$ 217.06	$ 213.77	$ 210.59	**$ 223.55**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Average Service Level ($ per Capita)	$ 223.55
Service Level Cap	**$ 474,821**

Appendix C-1
Table 2
Township of Wellington North
Calculation of Service Standards
Parkland (Vehicles and Equipment)

Unit Measure: $/units

Inventory (No. of Vehicles and Equipment) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Unit)
Ice Cleaner - Mount Forest Arenas	1	1	1	1	1	1	1	1	1	1	$ 100,815
Ice Cleaner - Arthur Arena	1	1	1	1	1	1	1	1	1	1	$ 100,815
Pick-Up Truck	2	2	2	2	2	2	2	2	3	3	$ 79,591
lawn mower and attachements					1	1	1	1	1	1	$ 31,836
tractor w/mower and bucket							1	1	1	2	$ 38,203
tractor shared with works dept.	1	1	1	1	1	1	1	1	1	-	$ 35,657
Total Units	**5**	**5**	**5**	**5**	**6**	**6**	**7**	**7**	**8**	**8**	
Total Value $	**$ 396,467**	**$ 396,467**	**$ 396,467**	**$ 396,467**	**$ 428,304**	**$ 428,304**	**$ 466,507**	**$ 466,507**	**$ 546,098**	**$ 548,645**	

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Value Per Capita	$ 33.18	$ 32.88	$ 32.59	$ 32.30	$ 34.59	$ 34.29	$ 36.77	$ 36.20	$ 41.74	$ 41.31	$ 35.58

10 Year Funding Envelope Calculation

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Average Service Level ($ per Capita)	$ 35.58
Service Level Cap	**$ 75,581**

Appendix C-1
Table 3
Township of Wellington North
Calculation of Service Standards
Parkland (Amenities)

Unit Measure: $/unit
Inventory (No. Units) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Unit)
Cork Street Restrooms+A10:A37	1	1	1	1	1	1	1	1	1	1	$ 31,836
Cork Street Pavilion	1	1	1	1	1	1	1	1	1	1	$ 37,142
Cork Street Concession Booth	1	1	1	1	1	1	1	1	1	1	$ 3,184
Cork Street Soccer Fields (lit)	1	1	1	1	1	1	1	1	1	1	$ 159,181
Cork Street Soccer Fields (unlit)	1	1	1	1	1	1	1	1	1	1	$ 95,509
Cork Street Ball Park (lit)	1	1	1	1	1	1	1	1	1	1	$ 265,302
Cork Street Skateboard Park	1	1	1	1	1	1	1	1	1	1	$ 90,203
Cork Street Skateboard Bowl	1	1	1	1	1	1	1	1	1	1	$ 47,754
Cork Street Playground Equipment	1	1	1	1	1	1	1	1	1	1	$ 26,530
Pool Playground Equipment	1	1	1	1	1	1	1	1	1	1	$ 47,754
Murphy Park Washrooms	1	1	1	1	1	1	1	1	1	1	$ 42,448
Picnic Shelter (Murphy Park)	1	1	1	1	1	1	1	1	1	1	$ 26,530
Murphy Park Playground Equipment	1	1	1	1	1	1	1	1	1	1	$ 63,672
Lions Park Playground Equipment	1	1	1	1	1	1	1	1	1	1	$ 42,448
Bleachers	27	27	27	27	27	27	27	27	27	27	$ 47,754
Picnic Tables	41	50	55	60	60	60	65	65	65	65	$ 20,694
Conn Playground Equipment	1	1	1	1	1	1	1	1	1	1	$ 15,918
Conn Pavilion	1	1	1	1	1	1	1	1	1	1	$ 37,142
Conn Picnic Shelter	1	1	1	1	1	1	1	1	1	1	$ 21,224
Arthur Park Running Track	1	1	1	1	1	1	1	1	1	1	$ 90,203
Arthur Park Lit Ball Diamond	2	2	2	2	2	2	2	2	2	2	$ 530,604
Arthur Lions Park	-	1	1	1	1	1	1	1	1	1	$ 26,530
Arthur Optimist Park Pavilion	1	1	1	1	1	1	1	1	1	1	$ 100,815
Birmingham Lions Park Playground Equipment	1	1	1	1	1	1	1	1	1	1	$ 47,754
Bill Moody Lions Playground Equipment	-	1					1	1	1	1	$ 63,672
Splash pad							1	1	1	2	$ 191,017
Mount Forest King St Ag Park								1	1	1	$ -
Ball Diamonds	2	2	2	2	2	2	2	2	2	2	$ 530,604
Running Track	1	1	1	1	1	1	1	1	1	1	$ 122,039
Soccer Pitches (Junior Fields)	2	2	2	2	2	2	2	2	2	2	$ 42,448
Ball Booth & Washroom	1	1	1	1	1	1	1	1	1	1	$ 122,039
Lions Pavillion Mount Forest	-	1	1	1	1	1	1	1	1	1	$ 37,142
Total	**96**	**108**	**112**	**117**	**117**	**117**	**124**	**125**	**125**	**126**	
Total Value $	**$ 5,881,745**	**$ 6,195,332**	**$ 6,235,128**	**$ 6,338,595**	**$ 6,338,595**	**$ 6,338,595**	**$ 6,696,753**	**$ 6,696,753**	**$ 6,696,753**	**$ 6,887,771**	

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Value Per Capita	$ 492.20	$ 513.79	$ 512.50	$ 516.42	$ 511.92	$ 507.49	$ 527.80	$ 519.69	$ 511.83	$ 518.58	**$ 513.22**

Service Level Cap	10-Year
Forecast Population Growth (2021 to 2030)	2,124
Average Service Level ($ per Capita)	$ 513.22
Service Level Cap	**$ 1,090,087**

Appendix C-1
Table 4
Township of Wellington North
Calculation of Service Standards
Parkland (Paths and Trails)

Unit Measure: $/km
Inventory (No. Km) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Km)
Earth Trails - Mount Forest	3	3	3	3	3	3	3	3	3	3	$ 7,967
Trails - Arthur	1	1	1	1	1	1	1	1	1	1	$ 7,967
Arther Walking Trails	-	3	3	3	3	3	3	3	3	3	$ 29,291
Total	**4**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	
Total Value $	**$ 30,276**	**$ 118,150**	**$ 118,150**	**$ 118,150**	**$ 118,150**	**$ 118,150**	**$ 118,150**	**$ 118,150**	**$ 118,150**	**$ 118,150**	

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Value Per Capita	$ 2.53	$ 9.80	$ 9.71	$ 9.63	$ 9.54	$ 9.46	$ 9.31	$ 9.17	$ 9.03	$ 8.90	**$ 8.71**

Service Level Cap	10-Year
Forecast Population Growth (2021 to 2030)	2,124
Average Service Level ($ per Capita)	$ 8.71
Service Level Cap	**$ 18,495**

Appendix C-2
Table 1
Township of Wellington North
Calculation of Service Standards
Recreation (Facilities)

Unit Measure: $/sq ft)
Inventory (No. sq ft) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/ sq ft)	2021 Replacement Value
Arthur Village Community Centre Arena	46,232	46,232	46,232	46,232	46,232	46,232	46,232	46,232	46,232	46,232	$ 298.40	$ 13,795,704
Arthur Seniors Hall	4,896	4,896	4,896	4,896	4,896	4,896	4,896	4,896	4,896	4,896	$ 97.54	$ 13,000,000
South Luther Hall	-	-										$ 450,000
Arthur Pool & Changehouse	6,542	6,542	6,542	6,542	6,542	6,542	6,542	6,542	6,542	6,542	$ 121.66	$ 450,000
Mount Forest Sports Complex	70,409	70,409	70,409	70,409	70,409	70,409	70,409	70,409	70,409	70,409	$ 286.37	$ 750,000
Mount Forest outdoor pool and changehouse	7,192	7,192	7,192	7,192	7,192	7,192	7,192	7,192	7,192	7,192	$ 140.18	$ 19,000,000
Total	**137,671**	**137,671**	**137,671**	**137,671**	**137,671**	**137,671**	**137,671**	**137,671**	**137,671**	**137,671**		
Total Value $	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**	**$ 36,717,797**		

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Value per Capita	$ 3,072.62	$ 3,045.10	$ 3,018.07	$ 2,991.51	$ 2,965.42	$ 2,939.78	$ 2,893.90	$ 2,849.43	$ 2,806.31	$ 2,764.48	$ 2,934.66

Service Level Cap	10 Year
Forecast Population Growth (2021 to 2030)	2,124
Average Service Level ($ per Capita)	$ 2,934.66
Service Level Cap	**$ 6,233,220**

Appendix C-3
Table 1
Township of Wellington North
Calculation of Service Standards
Fire (Facilities)

Unit Measure: $/sq ft)
Inventory (No. sq ft) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/ sq ft)	2021 Replacement Value
Mount Forest	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	$ 424	$ 2,623,306
Arthur Village	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	$ 424	$ 4,618,377
Total	**17,060**	**17,060**	**17,060**	**17,060**	**17,060**	**17,060**	**17,060**	**17,060**	**17,060**	**17,060**		
Total Value $	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**	**$ 7,241,683**		

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Per Capita & Employment Service Level ($/Capita& Employment)	$ 390.68	$ 386.41	$ 382.24	$ 378.15	$ 374.15	$ 370.23	$ 364.44	$ 358.84	$ 353.40	$ 348.12	**$ 370.67**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita)	$ 370.67
Service Level Cap	**$ 1,108,810**

Appendix C-3
Table 2
Township of Wellington North
Calculation of Service Standards
Fire (Vehicles)

Unit Measure: $/vehicles

Inventory (No. of Vehicles) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Unit)
Mount Forest:											
Pumper	2	2	2	1	1	1	1	1	1	1	$ 795,906
Pumper/Rescue (SQUAD)	1	1	1	1	1	1	1	1	1	1	$ 848,966
Tanker	1	1	1	1	1	1	1	1	1	1	$ 424,483
Rescue	1	1	1	1	1	1	1	1	1	1	$ 106,121
Arthur:											
Pumper	2	2	2	1	1	1	1	1	1	1	$ 795,906
Pumper/Rescue(SQUAD)	1	1	1	1	1	1	1	1	1	1	$ 848,966
Tanker	1	1	1	1	1	1	1	1	1	1	$ 424,483
Rescue	1	1	1	1	1	-	-	-	-	-	$ 530,604
Total	**10**	**10**	**10**	**8**	**8**	**7**	**7**	**7**	**7**	**7**	
Total Value $	**$ 6,367,248**	**$ 6,367,248**	**$ 6,367,248**	**$ 4,775,436**	**$ 4,775,436**	**$ 4,244,832**	**$ 4,244,832**	**$ 4,244,832**	**$ 4,244,832**	**$ 4,244,832**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment*	18,536.00	18,740.80	18,945.60	19,150.40	19,355.20	19,560.00	19,870.50	20,181.00	20,491.50	20,802.00	
Per Capita & Employment Service Level ($/Capita& Employment)	$ 343.51	$ 339.75	$ 336.08	$ 249.36	$ 246.73	$ 217.02	$ 213.62	$ 210.34	$ 207.15	$ 204.06	**$ 256.76**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita)	$ 256.76
Service Level Cap	**$ 768,078**

Appendix C-3
Table 3
Township of Wellington North
Calculation of Service Standards
Fire (Equipment)

Unit Measure: $/units
Inventory (No. of Equipment) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Unit)
Firefigher Equipment/Gear	43	43	43	43	100	100	100	60	60	60	$ 3,184
S.C.B.A's	34	34	34	34	40	40	40	32	32	32	$ 7,428
Portable Pumps	15	15	15	15	6	6	6	6	6	6	$ 8,490
AirBags	6	6	6	6	3	3	3	6	6	6	$ 4,245
Air Bottles	60	60	60	60	90	90	90	100	100	100	$ 1,698
Portable Generators	9	9	9	9	6	6	6	6	6	6	$ 2,122
Jaws of Life	5	5	5	5	5	5	5	5	4	4	$ 106,121
Thermal Imaging Camera	1	1	1	2	3	3	3	3	3	3	$ 8,490
Air Fill Station	1	1	1	1	1	1	1	1	1	1	$ 31,836
Total	**174**	**174**	**174**	**175**	**254**	**254**	**254**	**219**	**218**	**218**	
Total Value $	**$ 1,234,185**	**$ 1,234,185**	**$ 1,234,185**	**$ 1,242,675**	**$ 1,432,631**	**$ 1,432,631**	**$ 1,432,631**	**$ 1,275,572**	**$ 1,169,451**	**$ 1,169,451**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment*	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Per Capita & Employment Service Level ($/Capita& Employment)	$ 66.58	$ 65.86	$ 65.14	$ 64.89	$ 74.02	$ 73.24	$ 72.10	$ 63.21	$ 57.07	$ 56.22	**$ 65.83**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita)	$ 65.83
Service Level Cap	**$ 196,932**

Appendix C-4
Table 1
Township of Wellington North
Calculation of Service Standards
By-Law Enforcement

Unit Measure: $/vehicles
Inventory (No. of Vehicles) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Replacement Value
vehicle (2/3 Building Dept and 1/3 By-law Enforcement)	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	$ 30,000
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Value $	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	**$ 9,900**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population*	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment*	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment*	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Value Per (Capita & Employment)	$ 0.53	$ 0.53	$ 0.52	$ 0.52	$ 0.51	$ 0.51	$ 0.50	$ 0.49	$ 0.48	$ 0.48	**$ 0.51**

* represents urban population and employment

Service Level Cap	
Forecast Population Growth (2021 to 2030)	4,403
Forecast Employment Forecast (2021 to 2030)	1,459
Total Forecast Population and Employment Growth	**5,862**
Average Service Level ($ per Capita/Employment)	$ 0.51
Service Level Cap	**$ 2,970**

Appendix C-5
Table 1
Township of Wellington North
Calculation of Service Standards
Roads and Related (Facilities)

Unit Measure: $/sq ft)
Inventory (No. sq ft) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/ sq ft)	2021 Replacement Value
Mount Forest Garage	3,710	3,710	3,710	3,710	3,710	3,710	3,710	3,710	3,710	3,710	$ 118	$ 439,032
Mount Forest and/Salt Shed	3,355	3,355	3,355	3,355	3,355	3,355	3,355	3,355	3,355	3,355	$ 71	$ 239,786
Mount Forest Attached Lein-To	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	$ 14	$ 15,466
Arthur Township Garage	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	$ 121	$ 721,189
Arthur Township Sand/Salt Shet	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	$ 71	$ 256,153
Arther Township Salt Shed	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	$ 71	$ 72,043
Arthur Village Garage	4,608	4,608	4,608	4,608	4,608	4,608	4,608	4,608	4,608	4,608	$ 102	$ 469,714
Arther Village Storage Shed	960	960	960	960	960	960	960	960	960	960	$ 39	$ 37,118
West Luther Garage	6,250	6,250	6,250	6,250	6,250	6,250	6,250	6,250	6,250	6,250	$ 125	$ 783,547
West Luther Sand/Salt Shed	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200	$ 71	$ 300,179
Total	**34,751**	**34,751**	**34,751**	**34,751**	**34,751**	**34,751**	**34,751**	**34,751**	**34,751**	**34,751**		
Total Value $	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**	**$ 3,334,227**		

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Value Per (Capita & Employment)	$ 279.01	$ 276.52	$ 274.06	$ 271.65	$ 269.28	$ 266.95	$ 262.79	$ 258.75	$ 254.83	$ 251.03	**$ 266.49**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita/Employment)	$ 266.49
Service Level Cap	**$ 797,170**

Appendix C-5
Table 2
Township of Wellington North
Calculation of Service Standards
Roads and Related (Vehicles and Equipment)

Unit Measure: $/units
Inventory (No. of Vehicles and Equipment) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Unit)
Single Axle Flatbed Dump Truck	1	1	1	1	1	1	1	1	1	1	$ 110,000
Single Axle Dump Truck incl. Sander	1	1	-	-	-	-	-				
Single Axle Dump Truck incl Sander & Plow Equip.	2	1	2	2	2	2	2	2	3	3	$ 260,000
Single Axle 3 Ton Dump Truck incle Sander & plow Eq	1	1	-	-	-	-	-				
Tandem Axle Truck Incl Winter Equip	6	6	7	7	7	7	7	7	6	6	$ 300,000
Gravel Hopper Trailer	1	-	-	-	-	-	-				
Gravel Pony Dump Trailer	3	3	3	3	3	3	3	3	3	3	$ 90,000
Float Trailer	1	1	1	1	1	1	-				
Grader incl. Winter Equip	4	4	4	4	4	4	4	4	4	4	$ 500,000
Grader with Brusher	1	1	1	1	1	1	1				
3 YD Rubber Tire Loaders	2	2	2	2	2	2	2	2	2	2	$ 280,000
Backhoes	2	2	2	2	2	2	2	2	2	2	$ 150,000
Small Tactor	1	1	1	1	1	1	1	1	1	1	$ 60,000
Farm Tractor	1	1	1	1	1	1	1	1	1	1	$ 200,000
140HP Articulate Tractor	1	1	1	1	1	1	1	1	1	1	$ 200,000
Self Propelled Lawnmover & attachments-blower,sw	1	1	1	1	1	1	1	1	1	1	$ 60,000
Trackless with attachments	1	1	1	1	1	1	2	2	2	2	$ 180,000
3 Wheel Street Sweeper	1	1	1	1	1	1	1				
Roadside Mower	1	1	1	1	1	1	1	1	1	1	$ 15,000
Sidewalk Grinder	1	1	1	1	1	1	1	1	1	1	$ 5,000
Trailer	1	1	1	1	1	1	1	1	1	2	$ 8,500
Sidewalk Sander	2	2	2	2	2	2	3	4	4	4	$ 6,500
2 Wheel Drive Pick-Up Truck	1	3	3	3	3	2	1				
2 Wheel Drive Van	-	-	-	-	-	-	-				
4x4 Pick-Up Truck	1	2	2	2	2	4	5	6	8	9	$ 45,000
Truck Mounted Street Sweeper			1	1	1	1	1	1	2	2	$ 375,000
Total	**38**	**39**	**40**	**40**	**40**	**41**	**42**	**41**	**44**	**46**	
Total Value $	**$ 6,346,500**	**$6,131,500**	**$ 7,066,500**	**$ 7,066,500**	**$ 7,066,500**	**$ 7,156,500**	**$ 7,388,000**	**$ 7,439,500**	**$ 7,864,500**	**$ 7,918,000**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Value Per (Capita & Employment)	$ 342.39	$ 327.17	$ 372.99	$ 369.00	$ 365.10	$ 365.87	$ 371.81	$ 368.64	$ 383.79	$ 380.64	**$ 364.74**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita/Employment)	$ 364.74
Service Level Cap	**$ 1,091,082**

Appendix C-5
Table 3
Township of Wellington North
Calculation of Service Standards
Roads and Related (Bridges and Culverts)

Unit Measure: $/unit)
Inventory (No. Units) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/ Unit)
Bridges	43	43	43	43	43	42	42	42	42	42	$ 276,629
Culverts	57	57	57	57	57	58	58	58	58	58	$ 118,455
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
Total Value $	**$ 18,646,959**	**$18,646,959**	**$18,646,959**	**$18,646,959**	**$18,646,959**	**$18,488,785**	**$18,488,785**	**$18,488,785**	**$18,488,785**	**$18,488,785**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Value Per (Capita & Employment)	$ 1,005.99	$ 994.99	$ 984.24	$ 973.71	$ 963.41	$ 945.23	$ 930.46	$ 916.15	$ 902.27	$ 888.80	**$ 950.52**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita/Employment)	$ 950.52
Service Level Cap	**$ 2,843,399**

Appendix C-5
Table 4
Township of Wellington North
Calculation of Service Standards
Roads and Related (Sidewalks and Streetlights)

Unit Measure: $/km & unit)
Inventory (No. Km & Units) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Km & Unit)
Sidewalks & Streetlights											
Arther Sdiewalks	13	13	13	13	13	13	13	13	13	13	$ 134,272
Mount Forest Sidewalks	20	20	20	20	20	20	20	20	20	20	$ 134,272
Arther Streetlights	284	284	284	284	284	284	284	284	284	284	$ 3,984
Mount Forest Streetlights	631	631	631	631	631	631	631	631	631	631	$ 3,984
Others (Hamlets)	47	47	47	47	47	47	47	47	47	47	$ 3,984
Total	**995**	**995**	**995**	**995**	**995**	**995**	**995**	**995**	**995**	**995**	
Total Value $	**$ 8,263,245**	**$8,263,245**	**$ 8,263,245**	**$ 8,263,245**	**$ 8,263,245**	**$ 8,263,245**	**$ 8,263,245**	**$ 8,263,245**	**$ 8,263,245**	**$ 8,263,245**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Square Footage per Population & Employment											
Total Historic Population & Employment	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Value Per (Capita & Employment)	$ 445.79	$ 440.92	$ 436.16	$ 431.49	$ 426.93	$ 422.46	$ 415.85	$ 409.46	$ 403.25	$ 397.23	**$ 422.95**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita/Employment)	$ 422.95
Service Level Cap	**$ 1,265,226**

Appendix C-5
Table 5
Township of Wellington North
Calculation of Service Standards
Roads and Related (Roads)

Unit Measure: $/km
Inventory (No. Km) & Value

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 Value ($/Km)
Earth	22	22	22	22	22	22	22	22	22	22	$ 340,953
Gravel	195	195	195	195	195	192	192	192	192	192	$ 785,012
Surface Treatment	13	13	13	13	13	13	13	13	13	13	$ 1,074,412
Asphal	123	123	123	123	123	126	126	126	126	126	$ 1,492,694
Total	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	**353**	
Total Value $	**$ 358,146,981**	**$ 358,146,981**	**$ 358,146,981**	**$ 358,146,981**	**$ 358,146,981**	**$ 360,270,028**	**$ 360,270,028**	**$ 360,270,028**	**$ 360,270,028**	**$ 360,270,028**	

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Population	11,950	12,058	12,166	12,274	12,382	12,490	12,688	12,886	13,084	13,282	
Employment	6,586	6,683	6,780	6,876	6,973	7,070	7,183	7,295	7,408	7,520	
Total Historic Population & Employment*	18,536	18,741	18,946	19,150	19,355	19,560	19,871	20,181	20,492	20,802	
Value Per (Capita & Employment)	$ 19,321.70	$ 19,110.55	$ 18,903.97	$ 18,701.80	$ 18,503.92	$ 18,418.71	$ 18,130.90	$ 17,851.94	$ 17,581.44	$ 17,319.01	**$ 18,384.39**

Service Level Cap	
Forecast Population Growth (2021 to 2030)	2,124
Employment Forecast (2021 to 2030)	867
Total Forecast Population and Employment Growth	2,991
Average Service Level ($ per Capita/Employment)	$ 18,384.39
Service Level Cap	**$ 54,995,073**

Appendix D

NET GROWTH-RELATED COSTS TO BE RECOVERED FROM DEVELOPMENT CHARGES

Appendix D-1
Table 1
Township of Wellington North
Administrative Services - Studies
Capital Costs Included in Development Charges Calculation

Increased Service Needs due to Anticipated Development 2021-2030	Year Required	Gross Project Cost	Less: Grants, Subsidies & Development Contributions Attributable to New Development	Net Municipal Capital Costs	Less: Benefit to Existing Development		Total Development Recoverable Costs	Total Development Recoverable Costs Net of Stat. Deduction	Less: Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Adjustment Due to Service Level Cap	DC Eligible Costs	
					$	%							Residential Share	Non-Res. Share
													72%	28%
Development Charges Study	2021	$ 30,000	$ -	$ 30,000	$ -	0%	$ 30,000	$ 30,000		$ 30,000		$ 30,000	$ 21,681	$ 8,319
Development Charges Study	2026	$ 35,000	$ -	$ 35,000	$ -	0%	$ 35,000	$ 35,000		$ 35,000		$ 35,000	$ 25,294	$ 9,706
Community Growth Plan / Housing Strategy	2027	$ 35,000	$ -	$ 35,000	$ -	0%	$ 35,000	$ 35,000		$ 35,000		$ 35,000	$ 25,294	$ 9,706
Zoning By-Law Update	2023	$ 25,000	$ -	$ 25,000	$ 21,750	87%	$ 3,250	$ 3,250		$ 3,250		$ 3,250	$ 2,349	$ 901
Stragegic Plan Update	2023	$ 25,000	$ -	$ 25,000	$ 21,750	87%	$ 3,250	$ 3,250		$ 3,250		$ 3,250	$ 2,349	$ 901
Stragegic Plan Update	2027	$ 25,000	$ -	$ 25,000	$ 21,750	87%	$ 3,250	$ 3,250		$ 3,250		$ 3,250	$ 2,349	$ 901
			$ -	$ -	$ -		$ -	$ -		$ -		$ -	$ -	$ -
Post Period Capacity Carry Forward										$ -		$ -	$ -	$ -
Reserve Balance									$ 23,192	$ (23,192)		$ (23,192)	$ (16,761)	$ (6,431)
Debt										$ -		$ -	$ -	$ -
Reserve Deficit										$ -		$ -	$ -	$ -
Credits										$ -		$ -	$ -	$ -
Total Estimated Capital Costs		**$ 175,000**	**$ -**	**$ 175,000**	**$ 65,250**		**$ 109,750**	**$ 109,750**	**$ 23,192**	**$ 86,558**		**$ 86,558**	**$ 62,555**	**$ 24,003**

Appendix D-2
Table 1
Township of Wellington North
Parks Services
Capital Costs Included in Development Charges Calculations

Increased Service Needs due to Anticipated Development 2021-2030	Year Required	Gross Project Cost	Less: Grants, Subsidies & Development Contributions Attributable to New Development	Net Municipal Capital Costs	Less: Benefit to Existing Development		Total Development Recoverable Costs	Less					DC Eligible Costs	
					$	%		Total Development Recoverable Costs Net of Stat Deductions	Adjustments	Total Development Cost Recoverable Net of Adjustments	Post Period Capacity	Total Development Cost Adjustment Due to Service Level Cap	Residential Share	Non-Res. Share
													95%	5%
				$ -	$ -		$ -	$ -		$ -	$ -	$ -	$ -	$ -
Dog Park in MF	2025	$ 50,000		$ 50,000	$ 43,500	87%	$ 6,500	$ 6,500		$ 6,500	$ -	$ 6,500	$ 6,175	$ 325
Arthur Soccer Pitch w/lights	2027	$ 250,000		$ 250,000	$ 217,500	87%	$ 32,500	$ 32,500		$ 32,500	$ -	$ 32,500	$ 30,875	$ 1,625
Dog Park in Arthur	2026	$ 50,000		$ 50,000	$ 43,500	87%	$ 6,500	$ 6,500		$ 6,500	$ -	$ 6,500	$ 6,175	$ 325
New Playground in Arthur	2028	$ 125,000		$ 125,000	$ -	0%	$ 125,000	$ 125,000		$ 125,000	$ -	$ 125,000	$ 118,750	$ 6,250
Rehabilitate Playground in Arthur (Expand)	2026	$ 125,000		$ 125,000	$ 108,750	87%	$ 16,250	$ 16,250		$ 16,250	$ -	$ 16,250	$ 15,438	$ 813
Ball Diamond in MF	2028	$ 300,000		$ 300,000	$ 261,000	87%	$ 39,000	$ 39,000		$ 39,000	$ -	$ 39,000	$ 37,050	$ 1,950
Trail Development/Expansion	2021-2027	$ 245,000		$ 245,000	$ 213,150	87%	$ 31,850	$ 31,850		$ 31,850	$ -	$ 31,850	$ 30,258	$ 1,593
Parks Vehicle / Trail Vehicle (Gator)	2023	$ 40,000		$ 40,000	$ 34,800	87%	$ 5,200	$ 5,200		$ 5,200	$ -	$ 5,200	$ 4,940	$ 260
Cork St. park replacement/expansion	2022	$ 200,000		$ 200,000	$ 174,000	87%	$ 26,000	$ 26,000		$ 26,000	$ -	$ 26,000	$ 24,700	$ 1,300
Multi purpose court in MF	2026	$ 220,000		$ 220,000	$ 191,400	87%	$ 28,600	$ 28,600		$ 28,600	$ -	$ 28,600	$ 27,170	$ 1,430
Multi purpose court in Arthur	2024	$ 220,000		$ 220,000	$ 191,400	87%	$ 28,600	$ 28,600		$ 28,600	$ -	$ 28,600	$ 27,170	$ 1,430
New stroage building in MF	2026	$ 90,000		$ 90,000	$ 78,300	87%	$ 11,700	$ 11,700		$ 11,700	$ -	$ 11,700	$ 11,115	$ 585
Pavillion - Merv Weber Park	2025	$ 60,000		$ 60,000	$ 52,200	87%	$ 7,800	$ 7,800		$ 7,800	$ -	$ 7,800	$ 7,410	$ 390
Pavillion - Lion's Park Arthur	2027	$ 60,000		$ 60,000	$ 52,200	87%	$ 7,800	$ 7,800		$ 7,800	$ -	$ 7,800	$ 7,410	$ 390
new playground in MF (Bentley St.)	2027	$ 120,000		$ 120,000	$ -	0%	$ 120,000	$ 120,000		$ 120,000	$ -	$ 120,000	$ 114,000	$ 6,000
				$ -	$ -		$ -	$ -		$ -	$ -	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -	$ -	$ -	$ -	$ -
Post Period Capacity Carry Forward							$ -	$ -		$ -	$ -	$ -	$ -	$ -
Reserve Balance									$ 20,757	$ (20,757)	$ -	$ (20,757)	$ (19,719)	$ (1,038)
Debt										$ -	$ -	$ -	$ -	$ -
Reserve Deficit										$ -	$ -	$ -	$ -	$ -
Credits										$ -	$ -	$ -	$ -	$ -
Total Estimated Capital Costs		**$ 2,155,000**	**$ -**	**$ 2,155,000**	**$ 1,661,700**		**$ 493,300**	**$ 493,300**	**$ 20,757**	**$ 472,543**	**$ -**	**$ 472,543**	**$ 448,916**	**$ 23,627**

Appendix D-3
Table 1
Township of Wellington North
Recreation Services
Capital Costs Included in the Development Charge Calculation

Increased Service Needs due to Anticipated Development 2021-2030	Year Required	Gross Project Cost	Grants, Subsidies & Development Contributions Attributable to New Development	Net Municipal Capital Costs	Less: Benefit to Existing Development		Total Development Recoverable Costs	Potential DC: Total Development Recoverable Costs Net of Stat. Deduction	Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Adjustment Due to Service Level Cap	DC Eligible Costs: Residential Share	DC Eligible Costs: Non-Res. Share
					$	%							95%	5%
				$ -	$ -	0%	$ -	$ -		$ -	$ -	$ -	$ -	$ -
Mount Forest Pool Replacement	2023	$ 3,100,000		$ 3,100,000	$ 2,697,000	87%	$ 403,000	$ 403,000		$ 403,000	$ -	$ 403,000	$ 382,850	$ 20,150
Arthur Community Centre Dressing Room Additions	2024	$ 835,441		$ 835,441	$ -	0%	$ 835,441	$ 835,441		$ 835,441	$ -	$ 835,441	$ 793,669	$ 41,772
Recreation Master Plan update	2027	$ 100,000		$ 100,000	$ 87,000	87%	$ 13,000	$ 13,000		$ 13,000	$ -	$ 13,000	$ 12,350	$ 650
				$ -	$ -	0%	$ -	$ -		$ -	$ -	$ -	$ -	$ -
				$ -	$ -	0%	$ -	$ -		$ -	$ -	$ -	$ -	$ -
Post Period Capacity Carry Forward										$ -	$ -	$ -	$ -	$ -
Reserve Balance									$ 97,055	$ (97,055)	$ -	$ (97,055)	$ (92,202)	$ (4,853)
Debt										$ -	$ -	$ -	$ -	$ -
Reserve Deficit										$ -	$ -	$ -	$ -	$ -
Credits										$ -	$ -	$ -	$ -	$ -
Total Estimated Capital Costs		**$ 4,035,441**	**$ -**	**$ 4,035,441**	**$ 2,784,000**		**$ 1,251,441**	**$ 1,251,441**	**$ 97,055**	**$ 1,154,387**	**$ -**	**$ 1,154,387**	**$ 1,096,667**	**$ 57,719**

Appendix D-4
Table 1
Township of Wellington North
Fire Protection Services
Capital Costs Included in the Development Charge Calculation

Increased Servcie Needs due to Anticipated Development 2021-2030	Year Required	Gross Project Cost	Grants, Subsidies & Development Contributions Attributable to New Development	Net Municipal Capital Costs	Benefit to Existing Development		Total Development Recoverable Costs	Total Development Recoverable Net of Stat. Deductions	Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Costs Adjustment Due to Service Level Cap	DC Eligible Costs: Residential Share	DC Eligible Costs: Non-Res. Share
					$	%							72%	28%
				$0	$0	0%	$0	$0		$0	$0	$ -	$ -	$ -
New Build of Mount Forest Fire Hall	2023	$2,000,000		$2,000,000	$1,740,000	87%	$260,000	$260,000		$260,000	$0	$ 260,000	$ 187,900	$ 72,100
SCBA Filling Station	2025	$100,000		$100,000	$87,000	87%	$13,000	$13,000		$13,000	$0	$ 13,000	$ 9,395	$ 3,605
				$0	$0	0%	$0	$0		$0	$0	$ -	$ -	$ -
Post Period Capacity Carry Forward										$0	$0	$ -	$ -	$ -
Reserve Balance									$ 184,206	$ (184,206)	$0	$ (184,206)	$ (133,125)	$ (51,081)
Debt										$0	$0	$ -	$ -	$ -
Reserve Deficit										$0	$0	$ -	$ -	$ -
Credits										$0	$0	$ -	$ -	$ -
Total Estimated Capital Costs		**$ 2,100,000**		**$ 2,100,000**	**$ 1,827,000**		$273,000	$273,000	$184,206	$88,794	$0	$88,794	$64,171	$24,623

Appendix D-5
Table 1
Township of Wellington North
By-Law Enforcement
Capital Costs Included in the Development Charge Calculation

Increased Service Needs due to Anticipated Development 2021-2030	Year Required	Gross Project Cost	Grants, Subsidies & Development Contributions Attributable to New Development	Net Municipal Capital Costs	Benefit to Existing Development		Total Development Recoverable Costs	Total Development Recoverable Net of Stat. Deductions	Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Costs Adjustment Due to Service Level Cap	DC Eligible Costs	
					$	%							Residential Share	Non-Res. Share
													72%	28%
				$0	$0		$0	$0		$0	$0	$0	$0	$0
vehicle (2/3 Building Dept and 1/3 By-law Enforcement)	2021-2022	$10,000		$10,000	$8,700	87%	$1,300	$1,300		$1,300	$0	$1,300	$940	$360
				$0	$0		$0	$0		$0	$0	$0	$0	$0
Post Period Capacity Carry Forward										$0	$0	$0	$0	$0
Reserve Balance										$0	$0	$0	$0	$0
Debt										$0	$0	$0	$0	$0
Reserve Deficit										$0	$0	$0	$0	$0
Credits										$0	$0	$0	$0	$0
Total Estimated Capital Costs		**$10,000**	**$0**	**$10,000**	**$8,700**		**$1,300**	**$1,300**	**$0**	**$1,300**	**$0**	**$1,300**	**$940**	**$360**

Appendix D-6
Table 1
Township of Wellington North
Roads and Related Services
Capital Costs Included in the Development Charge Calculation

Increased Service Needs Attributable to Anticipated Development 2021-2030	Year Required	Gross Project Costs	Less: Grants, Subsidies & Development Contributions Attributable to New Development	Net Municipal Capital Costs	Less: Benefit to Existing Development $	Less: Benefit to Existing Development %	Total Development Recoverable Costs	Total Development Recoverable Costs Net of Stat Deductions	Less: Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Recoverable Costs Adjustment Due to Service Level Cap	DC Eligible Costs Residential Share 72%	DC Eligible Costs Non-Res. Share 28%
Arthur				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Wells St Reconstruction (Domville St to Macauley St)	2023	$ 1,082,361		$ 1,082,361	$ 844,241	78%	$ 238,119	$ 238,119		$ 238,119	$0	$ 238,119	$ 172,087	$ 66,032
Macauley St. Construction (Wells St. To Eliza St)	2029	$ 416,000		$ 416,000	$ 324,480	78%	$ 91,520	$ 91,520		$ 91,520	$0	$ 91,520	$ 66,141	$ 25,379
Preston / Domville Storm Sewer upgrades	2022	$ 1,728,000		$ 1,728,000	$ 1,347,840	78%	$ 380,160	$ 380,160		$ 380,160	$0	$ 380,160	$ 274,739	$ 105,421
Gordon St. (Eliza to unopened Anderson)	2023	$ 432,000		$ 432,000	$ 336,960	78%	$ 95,040	$ 95,040		$ 95,040	$0	$ 95,040	$ 68,685	$ 26,355
Conestoga St. N (Walton to Domville) - Urbanization	2023	$ 540,000		$ 540,000	$ 421,200	78%	$ 118,800	$ 118,800		$ 118,800	$0	$ 118,800	$ 85,856	$ 32,944
Roads Operational Office Space	2023	$ 315,000		$ 315,000	$ 245,700	78%	$ 69,300	$ 69,300		$ 69,300	$0	$ 69,300	$ 50,083	$ 19,217
Roads Fleet Space	2023	$ 3,185,000		$ 3,185,000	$ 2,484,300	78%	$ 700,700	$ 700,700		$ 700,700	$0	$ 700,700	$ 506,392	$ 194,308
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Mount Forest				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Queen St - Hwy. 89 Connecting Link (Main St - White's Bridge)	2022	$ 2,972,000	$ 1,420,000	$ 1,552,000	$ 1,210,560	78%	$ 341,440	$ 341,440		$ 341,440	$0	$ 341,440	$ 246,757	$ 94,683
Cork Street Reconstruction (Waterloo St. to Princess st.)	2024	$ 252,387		$ 252,387	$ 126,194	50%	$ 126,194	$ 126,194		$ 126,194	$0	$ 126,194	$ 91,199	$ 34,994
Reconstruction of Bentley Street at Hwy # 6	2023	$ 850,744		$ 850,744	$ 425,372	50%	$ 425,372	$ 425,372		$ 425,372	$0	$ 425,372	$ 307,414	$ 117,958
London Road Reconstruction (Broomer to Durham)	2024	$ 26,530		$ 26,530	$ 13,265	50%	$ 13,265	$ 13,265		$ 13,265	$0	$ 13,265	$ 9,587	$ 3,678
Coral Lea Drive Construction	2027	$ 290,741		$ 290,741	$ 113,389	39%	$ 177,352	$ 177,352		$ 177,352	$0	$ 177,352	$ 128,171	$ 49,181
Internal Road – Industrial Park – (Coral Lea Dr. to	2027	$ 110,097		$ 110,097	$ 42,938	39%	$ 67,159	$ 67,159		$ 67,159	$0	$ 67,159	$ 48,535	$ 18,624
Sidewalk - Princess Street	2022	$ 90,000		$ 90,000	$ 70,200	78%	$ 19,800	$ 19,800		$ 19,800	$0	$ 19,800	$ 14,309	$ 5,491
Industrial Drive - Finish Road to West Grey Boundary	2023	$ 100,000		$ 100,000	$ 78,000	78%	$ 22,000	$ 22,000		$ 22,000	$0	$ 22,000	$ 15,899	$ 6,101
Roads Operational and Fleet Space	2027	$ 2,000,000		$ 2,000,000	$ 1,560,000	78%	$ 440,000	$ 440,000		$ 440,000	$0	$ 440,000	$ 317,985	$ 122,015
Roads Need Study (Update)	2023	$ 40,000		$ 40,000	$ -	0%	$ 40,000	$ 40,000		$ 40,000	$0	$ 40,000	$ 28,908	$ 11,092
Roads Need Study (Update)	2028	$ 40,000		$ 40,000	$ -	0%	$ 40,000	$ 40,000		$ 40,000	$0	$ 40,000	$ 28,908	$ 11,092
Roads Need Study (Update)	2033	$ 40,000		$ 40,000	$ -	0%	$ 40,000	$ 40,000		$ 40,000	$0	$ 40,000	$ 28,908	$ 11,092
Roads Need Study (Update)	2038	$ 40,000		$ 40,000	$ -	0%	$ 40,000	$ 40,000		$ 40,000	$0	$ 40,000	$ 28,908	$ 11,092
Sidewalk Master Plan	2025	$ 50,000		$ 50,000	$ -	0%	$ 50,000	$ 50,000		$ 50,000	$0	$ 50,000	$ 36,135	$ 13,865
Sidewalk Master Plan	2035	$ 50,000		$ 50,000	$ -	0%	$ 50,000	$ 50,000		$ 50,000	$0	$ 50,000	$ 36,135	$ 13,865
Urban Traffic Impact Study	2023	$ 30,000		$ 30,000	$ -	0%	$ 30,000	$ 30,000		$ 30,000	$0	$ 30,000	$ 21,681	$ 8,319
Urban Traffic Impact Study	2033	$ 30,000		$ 30,000	$ -	0%	$ 30,000	$ 30,000		$ 30,000	$0	$ 30,000	$ 21,681	$ 8,319
Stormsewer Expansion initiatives	2031-2041	$ 620,000		$ 620,000	$ 136,400	22%	$ 483,600	$ 483,600		$ 483,600	$0	$ 483,600	$ 349,495	$ 134,105
Road urbanization intiatives	2031-2041	$ 1,000,000		$ 1,000,000	$ 220,000	22%	$ 780,000	$ 780,000		$ 780,000	$0	$ 780,000	$ 563,701	$ 216,299
Pedestrian Safety Measures	2031-2041	$ 250,000		$ 250,000	$ 55,000	22%	$ 195,000	$ 195,000		$ 195,000	$0	$ 195,000	$ 140,925	$ 54,075
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Post Period Capacity Carry Forward													$ -	$ -
Reserve Balance									$ 493,936	$ (493,936)	$0	$ (493,936)	$ (356,964)	$ (136,971)
Debt										$ -	$0	$ -	$ -	$ -
Reserve Deficit										$ -	$0	$ -	$ -	$ -
Credits										$ -	$0	$ -	$ -	$ -
Total Estimated Capital Costs		**$ 16,580,860**	**$ 1,420,000**	**$ 15,160,860**	**$ 10,056,039**		**$ 5,104,821**	**$ 5,104,821**	**$ 493,936**	**$ 4,610,885**	**$ -**	**$ 4,610,885**	**$ 3,332,258**	**$ 1,278,627**

Appendix D-7
Table 1
Township of Wellington North
Water Services
Capital Costs Included in the Development Charge Calculation

Increased Service Needs Attributable to Anticipated Development 2021-2041	Year Required	Gross Project Costs	Less: Grants, Subsidies & Development Contributions Attributable to New Development	Net Capital Costs	Less: Benefit to Existing Development $	Less: Benefit to Existing Development %	Total Development Recoverable Costs	Net Costs Benefiting New Development	Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Recoverable Costs Adjustment Due to Service Level Cap	DC Eligible Costs: Residential Share 76%	DC Eligible Costs: Non-Res. Share 24%
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Arthur				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
System Upgrades (Arthur)				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
System Extensions (Arthur)				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Wells St (Domville St to Macauley St.)	2023	$ 331,090		$ 331,090	$ 33,109	10%	$ 297,981	$ 297,981		$ 297,981	$0	$ 297,981	$ 225,628	$ 72,353
Eliza St (Macauley St to Tucker St)	2029	$ 201,638		$ 201,638	$ -	0%	$ 201,638	$ 201,638		$ 201,638	$0	$ 201,638	$ 152,678	$ 48,960
Water Tower - Arthur	2030	$ 4,200,000		$ 4,200,000	$ 3,108,000	74%	$ 1,092,000	$ 1,092,000		$ 1,092,000	$0	$ 1,092,000	$ 826,851	$ 265,149
Macauley St (Wells St. To Eliza St)	2029	$ 545,139		$ 545,139	$ 403,403	74%	$ 141,736	$ 141,736		$ 141,736	$0	$ 141,736	$ 107,321	$ 34,415
New Well Supply	2030	$ 3,500,000		$ 3,500,000	$ 2,590,000	74%	$ 910,000	$ 910,000		$ 910,000	$0	$ 910,000	$ 689,042	$ 220,958
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Mount Forest				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
System Upgrqades (Mount Forest)				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Cork St. Reconstruction (Waterloo St. to Princess St.)	2024	$ 134,418		$ 134,418	$ 26,884	20%	$ 107,534	$ 107,534		$ 107,534	$0	$ 107,534	$ 81,424	$ 26,110
South Water Street - Proposed SPS East to Hwy. 6	2023	$ 360,000		$ 360,000	$ 57,600	16%	$ 302,400	$ 302,400		$ 302,400	$0	$ 302,400	$ 228,974	$ 73,426
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
System Extention (Mount Forest)				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Murphy Lands (South Water St. - Previously Bristol St/Bently St..)	2023	$ 300,597		$ 300,597	$ 30,060	10%	$ 270,537	$ 270,537		$ 270,537	$0	$ 270,537	$ 204,848	$ 65,689
Birmingham St. Reconstruction (London Rd. to Westerly)	2023	$ 262,118		$ 262,118	$ 131,059	50%	$ 131,059	$ 131,059		$ 131,059	$0	$ 131,059	$ 99,237	$ 31,823
Trunk Watermain, Existing System to new Elevated Tank	2030	$ 599,120		$ 599,120	$ -	0%	$ 599,120	$ 599,120		$ 599,120	$0	$ 599,120	$ 453,647	$ 145,473
Mount Forest Water Tower	2030	$ 5,600,000		$ 5,600,000	$ 4,144,000	74%	$ 1,456,000	$ 1,456,000		$ 1,456,000	$0	$ 1,456,000	$ 1,102,468	$ 353,532
Sligo Road Reconstruction (Church St to London Rd)	2030	$ 300,596		$ 300,596	$ 150,298	50%	$ 150,298	$ 150,298		$ 150,298	$0	$ 150,298	$ 113,804	$ 36,494
Coral Lea Drive (Main St. Westerly)	2027	$ 523,761		$ 523,761	$ 204,267	39%	$ 319,494	$ 319,494		$ 319,494	$0	$ 319,494	$ 241,918	$ 77,577
Internal Road – Industrial Park – (Coral Lea Dr. to Industrial Dr.)	2027	$ 59,858		$ 59,858	$ 23,345	39%	$ 36,514	$ 36,514		$ 36,514	$0	$ 36,514	$ 27,648	$ 8,866
				$ -	$ -		$ -	$ -		$ -	$0	$ -	$ -	$ -
Update Master Servicing Plan Arthur and Mount Forest W-WW	2025	$ 32,500		$ 32,500	$ -	0%	$ 32,500	$ 32,500		$ 32,500	$0	$ 32,500	$ 24,609	$ 7,891
Update Master Servicing Plan Arthur and Mount Forest W-WW	2030	$ 40,000		$ 40,000	$ -	0%	$ 40,000	$ 40,000		$ 40,000	$0	$ 40,000	$ 30,288	$ 9,712
Update Master Servicing Plan Arthur and Mount Forest W-WW	2035	$ 45,000		$ 45,000	$ -	0%	$ 45,000	$ 45,000		$ 45,000	$0	$ 45,000	$ 34,074	$ 10,926
Update Master Servicing Plan Arthur and Mount Forest W-WW	2040	$ 50,000		$ 50,000	$ -	0%	$ 50,000	$ 50,000		$ 50,000	$0	$ 50,000	$ 37,859	$ 12,141
Water Vehicle (Split)	2022	$ 20,000		$ 20,000	$ 12,600	63%	$ 7,400	$ 7,400		$ 7,400	$0	$ 7,400	$ 5,603	$ 1,797
Environmental Services Operational Office Space	2023	$ 315,000		$ 315,000	$ 233,100	74%	$ 81,900	$ 81,900		$ 81,900	$0	$ 81,900	$ 62,014	$ 19,886
50% Master Plan (Full Update)	2026	$ 90,000		$ 90,000	$ -	0%	$ 90,000	$ 90,000		$ 90,000	$0	$ 90,000	$ 68,147	$ 21,853
System Capacity Improvements	2031-2041	$ 500,000		$ 500,000	$ 130,000	26%	$ 370,000	$ 370,000		$ 370,000	$0	$ 370,000	$ 280,160	$ 89,840
Reserve Balance									$ 255,042	$ (255,042)	$0	$ (255,042)	$ (193,115)	$ (61,927)
Debt										$ -	$0	$ -	$ -	$ -
Reserve Deficit										$ -	$0	$ -	$ -	$ -
Credits										$ -	$0	$ -	$ -	$ -
Total Estimated Capital Costs		**$ 18,010,836**	**$ -**	**$ 18,010,836**	**$ 11,277,724**		**$ 6,733,112**	**$ 6,733,112**	**$ 255,042**	**$ 6,478,070**	**$ -**	**$ 6,478,070**	**$ 4,905,127**	**$ 1,572,943**

Appendix D-8
Table 1
Township of Wellington North
Wastewater Services
Capital Costs Included in the Development Charges Calculation

Increased Service Needs Attributable to Anticipated Development 2021-2041	Year Required	Gross Project Costs	Less: Grants, Subsidies & Development Contributions Attributable to New Development	Net Capital Costs	Less: Benefit to Existing Development $	Less: Benefit to Existing Development %	Total Development Recoverable Costs	Less: Other (e.g. 10% Statutory Deduction) $	Less: Other (e.g. 10% Statutory Deduction) %	Net Costs Benefiting New Development	Adjustments	Total Development Recoverable Costs Net of Adjustments	Post Period Capacity	Total Development Recoverable Costs Adjustment Due to Service Level	DC Eligible Costs Residential Share 76%	DC Eligible Costs Non-Res. Share 24%
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
System Expansion (Arthur)				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Wells St. (CPR to Macauley St.)	2023	$ 184,822		$ 184,822	$ 18,482	10%	$ 166,340	$ -		$ 166,340		$ 166,340	$0	$ 166,340	$ 125,951	$ 40,389
Macauley St. (Wells St. to Tucker St.)	2029	$ 324,061		$ 324,061	$ 32,406	10%	$ 291,655	$ -		$ 291,655		$ 291,655	$0	$ 291,655	$ 220,838	$ 70,817
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Arthur Wastewater Treatment Plant Upgrades Phase 2	2031	$ 9,295,121		$ 9,295,121	$ 1,394,268	15%	$ 7,900,853	$ -		$ 7,900,853		$ 7,900,853	$0	$ 7,900,853	$ 5,982,443	$ 1,918,410
Francis Street West - Upgrade to Sanitary Sewer and/or Leonard Street -Upgrade to Sanitary Sewer	2027	$ 370,000		$ 370,000	$ 236,800	64%	$ 133,200	$ -		$ 133,200		$ 133,200	$0	$ 133,200	$ 100,858	$ 32,342
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Mount Forest				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Mount Forest New WPCP, Forcemain and Conversion of Old Plant -	2021-2024	$ 902,364		$ 902,364	$ 180,473	20%	$ 721,891	$ -		$ 721,891		$ 721,891	$0	$ 721,891	$ 546,608	$ 175,283
Mount Forest New WPCP, Forcemain and Conversion of Old Plant - (Debenture Interest)	2021-2024	$ 122,549		$ 122,549	$ 24,510	20%	$ 98,039	$ -		$ 98,039		$ 98,039	$0	$ 98,039	$ 74,234	$ 23,805
Arthur WWTP Phase I Upgrades - (Debenture Principal)	2021-2031	$ 5,000,000		$ 5,000,000	$ 750,000	15%	$ 4,250,000	$ -		$ 4,250,000		$ 4,250,000	$0	$ 4,250,000	$ 3,218,055	$ 1,031,945
Arthur WWTP Phase I Upgrades - (Debenture Interest)	2021-2031	$ 958,125		$ 958,125	$ 143,719	15%	$ 814,406	$ -		$ 814,406		$ 814,406	$0	$ 814,406	$ 616,660	$ 197,746
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
System Upgrades (Mount Forest)				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Cork St. Reconstruction (Waterloo St. to Princess St.)	2024	$ 38,567		$ 38,567	$ 28,540	74%	$ 10,028	$ -		$ 10,028		$ 10,028	$0	$ 10,028	$ 7,593	$ 2,435
Mount Forest WWTP Upgrade (Re-Rating)	2030	$ 1,400,000		$ 1,400,000	$ 1,036,000	74%	$ 364,000	$ -		$ 364,000		$ 364,000	$0	$ 364,000	$ 275,617	$ 88,383
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
System Expansions (Mount Forest)				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Murphy Lands Bristol St./Bentley St. S.P.S.	2023	$ 866,000		$ 866,000	$ 86,600	10%	$ 779,400	$ -		$ 779,400		$ 779,400	$0	$ 779,400	$ 590,153	$ 189,247
South Water Street - Part 1 (Previously Bentley St.)	2023	$ 750,923		$ 750,923	$ -	0%	$ 750,923	$ -		$ 750,923		$ 750,923	$0	$ 750,923	$ 568,591	$ 182,332
South Water Street - Part 2 (Previously Bristol St.)	2023	$ 724,834		$ 724,834	$ -	0%	$ 724,834	$ -		$ 724,834		$ 724,834	$0	$ 724,834	$ 548,837	$ 175,997
Trunk Gravity Sewer Forcemain S.P.S Queen Street West	2030	$ 524,058		$ 524,058	$ 52,406	10%	$ 471,652	$ -		$ 471,652		$ 471,652	$0	$ 471,652	$ 357,130	$ 114,522
Coral Lea Drive SPS and Forcemain	2025	$ 1,634,563		$ 1,634,563	$ 637,479	39%	$ 997,083	$ -		$ 997,083		$ 997,083	$0	$ 997,083	$ 754,981	$ 242,102
Internal Road – Industrial Park – (Coral Lea Dr. to Industrial Dr.)	2025	$ 725,968		$ 725,968	$ 283,128	39%	$ 442,841	$ -		$ 442,841		$ 442,841	$0	$ 442,841	$ 335,314	$ 107,526
Sligo Road Reconstruction (Church St to London Rd)	2030	$ 529,730		$ 529,730	$ 105,946	20%	$ 423,784	$ -		$ 423,784		$ 423,784	$0	$ 423,784	$ 320,885	$ 102,899
Birmingham St. Reconstruction (London Rd. to Westerly)	2023	$ 425,372		$ 425,372	$ 212,686	50%	$ 212,686	$ -		$ 212,686		$ 212,686	$0	$ 212,686	$ 161,044	$ 51,642
				$ -	$ -		$ -	$ -		$ -		$ -	$0	$ -	$ -	$ -
Update Master Servicing Plan Arthur and Mount Forest W-WW	2025	$ 32,500		$ 32,500	$ -	0%	$ 32,500	$ -		$ 32,500		$ 32,500	$0	$ 32,500	$ 24,609	$ 7,891
Update Master Servicing Plan Arthur and Mount Forest W-WW	2030	$ 40,000		$ 40,000	$ -	0%	$ 40,000	$ -		$ 40,000		$ 40,000	$0	$ 40,000	$ 30,288	$ 9,712
Update Master Servicing Plan Arthur and Mount Forest W-WW	2035	$ 45,000		$ 45,000	$ -	0%	$ 45,000	$ -		$ 45,000		$ 45,000	$0	$ 45,000	$ 34,074	$ 10,926
Update Master Servicing Plan Arthur and Mount Forest W-WW	2040	$ 50,000		$ 50,000	$ -	0%	$ 50,000	$ -		$ 50,000		$ 50,000	$0	$ 50,000	$ 37,859	$ 12,141
Water Vehicle (Split)	2022	$ 20,000		$ 20,000	$ 14,800	74%	$ 5,200	$ -		$ 5,200		$ 5,200	$0	$ 5,200	$ 3,937	$ 1,263
System capacity improvements	2031-2041	$ 500,000		$ 500,000	$ 130,000	26%	$ 370,000	$ -		$ 370,000		$ 370,000	$0	$ 370,000	$ 280,160	$ 89,840
50% Master Plan (Full Update)	2026	$ 90,000		$ 90,000	$ -		$ 90,000	$ -		$ 90,000		$ 90,000	$0	$ 90,000	$ 68,147	$ 21,853
Post Period Capacity Carry Forward																
Reserve Balance											$ 264,761	$ (264,761)	$0	$ (264,761)	$ (200,474)	$ (64,287)
Debt												$ -	$0	$ -	$ -	$ -
Reserve Deficit												$ -	$0	$ -	$ -	$ -
Credits												$ -	$0	$ -	$ -	$ -
Total Estimated Capital Costs		**$ 25,554,557**	$ -	**$ 25,554,557**	**$ 5,368,242**		**$ 20,186,314**	$ -		**$ 20,186,314**	**$ 264,761**	**$ 19,921,553**	$ -	**$ 19,921,553**	**$ 15,084,391**	**$ 4,837,162**

Appendix E

CASH FLOW ANALYSIS & ADJUSTED CHARGES

Appendix E-1
Table 1
Township of Wellington North
Administrative Services - Studies
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Adminstrative Services-Studies	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 16,761	$ 1,564	$ 8,011	$ 9,811	$ 16,722	$ 23,940	$ 3,269	$ (21,017)	$ (14,326)	$ (7,324)
Residential Population Growth in New Units	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 6,220	$ 6,344	$ 6,471	$ 6,601	$ 6,733	$ 6,867	$ 7,005	$ 7,145	$ 7,288	$ 7,433
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 21,681	$ -	$ 4,698	$ -	$ -	$ 25,294	$ 27,643	$ -	$ -	$ -
Inflated	$ 21,681	$ -	$ 4,887	$ -	$ -	$ 27,927	$ 31,131	$ -	$ -	$ -
Interest	$ 264	$ 103	$ 216	$ 311	$ 485	$ 388	$ (160)	$ (454)	$ (285)	$ (109)
Closing Cash Balance	$ 1,564	$ 8,011	$ 9,811	$ 16,722	$ 23,940	$ 3,269	$ (21,017)	$ (14,326)	$ (7,324)	$ -

2018 Adjusted Residential Charge Per Capita	**$ 27.51**

Appendix E-1
Table 2
Township of Wellington North
Administrative Services - Studies
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Adminstrative Services-Studies	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 6,431	$ 600	$ 3,074	$ 3,765	$ 6,417	$ 9,186	$ 1,254	$ (8,064)	$ (5,497)	$ (2,810)
Non-Residential Growth in Square Feet	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 2,387	$ 2,434	$ 2,483	$ 2,533	$ 2,583	$ 2,635	$ 2,688	$ 2,742	$ 2,796	$ 2,852
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 8,319	$ -	$ 1,802	$ -	$ -	$ 9,706	$ 10,607	$ -	$ -	$ -
Inflated	$ 8,319	$ -	$ 1,875	$ -	$ -	$ 10,716	$ 11,945	$ -	$ -	$ -
Interest	$ 101	$ 39	$ 83	$ 119	$ 186	$ 149	$ (61)	$ (174)	$ (109)	$ (42)
Closing Cash Balance	$ 600	$ 3,074	$ 3,765	$ 6,417	$ 9,186	$ 1,254	$ (8,064)	$ (5,497)	$ (2,810)	$ -

2018 Adjusted Non-Residential Charge Per Square Metre	**$ 0.03**

Appendix E-2
Table 1
Township of Wellington North
Parks Services
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Parks Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 19,719	$ 60,945	$ 78,570	$ 117,721	$ 134,768	$ 167,376	$ 14,352	$ 25,464	$ (102,850)	$ (52,582)
Residential Population Growth in New Units	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 44,652	$ 45,545	$ 46,456	$ 47,385	$ 48,332	$ 49,299	$ 50,285	$ 51,291	$ 52,317	$ 53,363
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 4,323	$ 29,023	$ 9,263	$ 31,493	$ 17,908	$ 185,630	$ 35,198	$ 155,800	$ -	$ -
Inflated	$ 4,323	$ 29,603	$ 9,637	$ 33,420	$ 19,384	$ 204,951	$ 39,638	$ 178,965	$ -	$ -
Interest	$ 896	$ 1,683	$ 2,332	$ 3,083	$ 3,659	$ 2,628	$ 465	$ (640)	$ (2,048)	$ (781)
Closing Cash Balance	$ 60,945	$ 78,570	$ 117,721	$ 134,768	$ 167,376	$ 14,352	$ 25,464	$ (102,850)	$ (52,582)	$ -

2018 Adjusted Residential Charge Per Capita	**$ 197.53**

Appendix E-2
Table 2
Township of Wellington North
Parks Services
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Parks Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 1,038	$ 3,208	$ 4,135	$ 6,196	$ 7,093	$ 8,809	$ 755	$ 1,340	$ (5,413)	$ (2,767)
Non-Residential Growth in Square Feet	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 2,350	$ 2,397	$ 2,445	$ 2,494	$ 2,544	$ 2,595	$ 2,647	$ 2,700	$ 2,754	$ 2,809
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 228	$ 1,528	$ 488	$ 1,658	$ 943	$ 9,770	$ 1,853	$ 8,200	$ -	$ -
Inflated	$ 228	$ 1,558	$ 507	$ 1,759	$ 1,020	$ 10,787	$ 2,086	$ 9,419	$ -	$ -
Interest	$ 47	$ 89	$ 123	$ 162	$ 193	$ 138	$ 24	$ (34)	$ (108)	$ (41)
Closing Cash Balance	$ 3,208	$ 4,135	$ 6,196	$ 7,093	$ 8,809	$ 755	$ 1,340	$ (5,413)	$ (2,767)	$ -

2018 Adjusted Non-Residential Charge Per Square Metre	**$ 0.03**

Appendix E-3
Table 1
Township of Wellington North
Recreation Services
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Recreation Services	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Cash Balance	$ 92,202	$ 205,967	$ 324,806	$ 46,589	$ (684,634)	$ (581,101)	$ (472,567)	$ (372,906)	$ (254,196)	$ (129,957)
Residential Population Growth in New Units	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 110,357	$ 112,564	$ 114,815	$ 117,112	$ 119,454	$ 121,843	$ 124,280	$ 126,765	$ 129,301	$ 131,887
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ -	$ 382,850	$ 793,669	$ -	$ -	$ 12,350	$ -	$ -	$ -
Inflated	$ -	$ -	$ 398,317	$ 842,248	$ -	$ -	$ 13,908	$ -	$ -	$ -
Interest	$ 3,409	$ 6,275	$ 5,285	$ (6,087)	$ (15,921)	$ (13,309)	$ (10,710)	$ (8,055)	$ (5,062)	$ (1,930)
Closing Cash Balance	$ 205,967	$ 324,806	$ 46,589	$ (684,634)	$ (581,101)	$ (472,567)	$ (372,906)	$ (254,196)	$ (129,957)	$ -

2018 Adjusted Residential Charge Per Capita	**$ 488.19**

Appendix E-3
Table 2
Township of Wellington North
Recreation Services
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Recreation Services	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Cash Balance	$ 4,853	$ 10,840	$ 17,095	$ 2,452	$ (36,033)	$ (30,584)	$ (24,872)	$ (19,627)	$ (13,379)	$ (6,840)
Non-Residential Growth in Square Feet	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 5,808	$ 5,924	$ 6,043	$ 6,164	$ 6,287	$ 6,413	$ 6,541	$ 6,672	$ 6,805	$ 6,941
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ -	$ 20,150	$ 41,772	$ -	$ -	$ 650	$ -	$ -	$ -
Inflated	$ -	$ -	$ 20,964	$ 44,329	$ -	$ -	$ 732	$ -	$ -	$ -
Interest	$ 179	$ 330	$ 278	$ (320)	$ (838)	$ (700)	$ (564)	$ (424)	$ (266)	$ (102)
Closing Cash Balance	$ 10,840	$ 17,095	$ 2,452	$ (36,033)	$ (30,584)	$ (24,872)	$ (19,627)	$ (13,379)	$ (6,840)	$ -

2018 Adjusted Non-Residential Charge Per Square Metre	**$ 0.08**

Appendix E-4
Table 1
Township of Wellington North
Fire Protection Services
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Fire Protection Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 133,125	$ 142,666	$ 152,570	$ (34,598)	$ (28,870)	$ (33,137)	$ (27,106)	$ (20,787)	$ (14,169)	$ (7,244)
Residential Population Growth in New Units	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 6,152	$ 6,275	$ 6,400	$ 6,528	$ 6,659	$ 6,792	$ 6,928	$ 7,066	$ 7,208	$ 7,352
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ -	$ 187,900	$ -	$ 9,395	$ -	$ -	$ -	$ -	$ -
Inflated	$ -	$ -	$ 195,492	$ -	$ 10,169	$ -	$ -	$ -	$ -	$ -
Interest	$ 3,390	$ 3,629	$ 1,923	$ (800)	$ (757)	$ (761)	$ (608)	$ (449)	$ (282)	$ (108)
Closing Cash Balance	$ 142,666	$ 152,570	$ (34,598)	$ (28,870)	$ (33,137)	$ (27,106)	$ (20,787)	$ (14,169)	$ (7,244)	$ -

2018 Adjusted Residential Charge Per Capita	**$ 27.21**

Appendix E-4
Table 2
Township of Wellington North
Fire Protection Services
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Fire Protection Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 51,081	$ 54,743	$ 58,543	$ (13,276)	$ (11,078)	$ (12,715)	$ (10,401)	$ (7,976)	$ (5,437)	$ (2,779)
Non-Residential Growth in Square Feet	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 2,360	$ 2,408	$ 2,456	$ 2,505	$ 2,555	$ 2,606	$ 2,658	$ 2,711	$ 2,766	$ 2,821
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ -	$ 72,100	$ -	$ 3,605	$ -	$ -	$ -	$ -	$ -
Inflated	$ -	$ -	$ 75,012	$ -	$ 3,902	$ -	$ -	$ -	$ -	$ -
Interest	$ 1,301	$ 1,393	$ 738	$ (307)	$ (290)	$ (292)	$ (233)	$ (172)	$ (108)	$ (41)
Closing Cash Balance	$ 54,743	$ 58,543	$ (13,276)	$ (11,078)	$ (12,715)	$ (10,401)	$ (7,976)	$ (5,437)	$ (2,779)	$ -

2018 Adjusted Non-Residential Charge Per Square Metre	**$ 0.03**

Appendix E-5
Table 1
Township of Wellington North
By-Law Enforcement
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Water and Wastewater Vehicles	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	0	$ (378)	$ (772)	$ (691)	$ (606)	$ (516)	$ (422)	$ (324)	$ (221)	$ (113)
Residential Population Growth in New Units	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 96	$ 98	$ 100	$ 102	$ 104	$ 106	$ 108	$ 110	$ 112	$ 114
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 470	$ 470	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Inflated	$ 470	$ 479	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interest	$ (4)	$ (13)	$ (18)	$ (16)	$ (14)	$ (12)	$ (9)	$ (7)	$ (4)	$ (2)
Closing Cash Balance	$ (377.69)	$ (772.37)	$ (691.01)	$ (605.61)	$ (516.01)	$ (422.08)	$ (323.66)	$ (220.61)	$ (112.75)	$ -

2021 Adjusted Residential Charge Per Capita	**$ 0.42**

Appendix E-5
Table 2
Township of Wellington North
By-Law Enforcement
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Water and Wastewater Vehicles	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	0	$ (145)	$ (296)	$ (265)	$ (232)	$ (198)	$ (162)	$ (124)	$ (85)	$ (43)
Non-Residential Growth in Square Feet	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 37	$ 37	$ 38	$ 39	$ 40	$ 41	$ 41	$ 42	$ 43	$ 44
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 180	$ 180	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Inflated	$ 180	$ 184	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interest	$ (1)	$ (5)	$ (7)	$ (6)	$ (5)	$ (5)	$ (4)	$ (3)	$ (2)	$ (1)
Closing Cash Balance	$ (144.93)	$ (296.39)	$ (265.17)	$ (232.41)	$ (198.04)	$ (162.01)	$ (124.26)	$ (84.72)	$ (43.35)	$ -

2021 Adjusted Non-Residential Charge Per Square Metre	**$ 0.00**

Appendix E-6
Table 1
Township of Wellington North
Roads and Related
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Roads and Related	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 356,964	$ 528,900	$ 156,407	$ (990,950)	$ (950,759)	$ (798,080)	$ (678,348)	$ (1,074,404)	$ (947,553)	$ (858,518)
Residential Population Growth in New Units	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**	**226**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 161,397	$ 164,625	$ 167,918	$ 171,276	$ 174,702	$ 178,196	$ 181,760	$ 185,395	$ 189,103	$ 192,885
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ 535,805	$ 1,257,004	$ 100,786	$ -	$ 36,135	$ 494,692	$ 28,908	$ 66,141	$ -
Inflated	$ -	$ 546,521	$ 1,307,787	$ 106,955	$ -	$ 39,896	$ 557,103	$ 33,206	$ 77,495	$ -
Interest	$ 10,538	$ 9,404	$ (7,489)	$ (24,131)	$ (22,022)	$ (18,569)	$ (20,712)	$ (25,338)	$ (22,573)	$ (19,534)
Closing Cash Balance	$ 528,900	$ 156,407	$ (990,950)	$ (950,759)	$ (798,080)	$ (678,348)	$ (1,074,404)	$ (947,553)	$ (858,518)	$ (685,167)

2021 Adjusted Residential Charge Per Capita	**$ 713.97**	$ -

RESIDENTIAL CASH FLOW (Continued)

2031	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
$ (685,167)	$ (623,866)	$ (559,464)	$ (556,652)	$ (487,338)	$ (462,782)	$ (387,758)	$ (309,127)	$ (267,646)	$ (182,444)	$ (93,274)
223	**223**	**223**	**223**	**223**	**223**	**223**	**223**	**223**	**223**	**223**
$ 194,469	$ 198,358	$ 202,325	$ 206,372	$ 210,499	$ 214,709	$ 219,004	$ 223,384	$ 227,851	$ 232,408	$ 237,056
$ 95,829	$ 95,829	$ 146,418	$ 95,829	$ 131,964	$ 95,829	$ 95,829	$ 124,737	$ 95,829	$ 95,829	$ 95,829
$ 116,815	$ 119,152	$ 185,693	$ 123,965	$ 174,124	$ 128,973	$ 131,553	$ 174,662	$ 136,868	$ 139,605	$ 142,397
$ (16,353)	$ (14,805)	$ (13,820)	$ (13,092)	$ (11,820)	$ (10,712)	$ (8,819)	$ (7,241)	$ (5,781)	$ (3,633)	$ (1,385)
$ (623,866)	$ (559,464)	$ (556,652)	$ (487,338)	$ (462,782)	$ (387,758)	$ (309,127)	$ (267,646)	$ (182,444)	$ (93,274)	$ -

Appendix E-6
Table 2
Township of Wellington North
Roads and Related
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Roads and Related	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 136,971	$ 219,460	$ 93,788	$ (328,440)	$ (294,197)	$ (215,970)	$ (149,538)	$ (280,142)	$ (209,194)	$ (151,820)
Non-Residential Growth in Square Feet	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**	**70,814**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 78,282	$ 79,847	$ 81,444	$ 83,073	$ 84,734	$ 86,429	$ 88,158	$ 89,921	$ 91,719	$ 93,554
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ 205,595	$ 482,327	$ 38,673	$ -	$ 13,865	$ 189,819	$ 11,092	$ 25,379	$ -
Inflated	$ -	$ 209,707	$ 501,813	$ 41,040	$ -	$ 15,308	$ 213,767	$ 12,742	$ 29,736	$ -
Interest	$ 4,207	$ 4,188	$ (1,859)	$ (7,791)	$ (6,508)	$ (4,688)	$ (4,995)	$ (6,232)	$ (4,610)	$ (2,860)
Closing Cash Balance	$ 219,460	$ 93,788	$ (328,440)	$ (294,197)	$ (215,970)	$ (149,538)	$ (280,142)	$ (209,194)	$ (151,820)	$ (61,127)

NON-RESIDENTIAL CASH FLOW (Continued)

2031	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
$ (61,127)	$ (51,826)	$ (42,076)	$ (56,726)	$ (46,652)	$ (54,574)	$ (43,982)	$ (32,886)	$ (36,956)	$ (25,191)	$ (12,879)
41,220	**41,220**	**41,220**	**41,220**	**41,220**	**41,220**	**41,220**	**41,220**	**41,220**	**41,220**	**41,220**
$ 55,546	$ 56,657	$ 57,790	$ 58,945	$ 60,124	$ 61,327	$ 62,553	$ 63,804	$ 65,081	$ 66,382	$ 67,710
$ 36,771	$ 36,771	$ 56,182	$ 36,771	$ 50,636	$ 36,771	$ 36,771	$ 47,863	$ 36,771	$ 36,771	$ 36,771
$ 44,823	$ 45,720	$ 71,253	$ 47,567	$ 66,813	$ 49,489	$ 50,478	$ 67,020	$ 52,518	$ 53,568	$ 54,639
$ (1,421)	$ (1,186)	$ (1,187)	$ (1,304)	$ (1,233)	$ (1,246)	$ (979)	$ (854)	$ (798)	$ (502)	$ (191)
$ (51,826)	$ (42,076)	$ (56,726)	$ (46,652)	$ (54,574)	$ (43,982)	$ (32,886)	$ (36,956)	$ (25,191)	$ (12,879)	$ -

Appendix E-7
Table 1
Township of Wellington North
Water Services
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Water Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 193,115	$ 437,097	$ 686,188	$ 89,763	$ 258,527	$ 496,954	$ 697,431	$ 677,583	$ 969,235	$ 965,995
Residential Population Growth in New Units	**209**	**209**	**209**	**209**	**209**	**209**	**209**	**209**	**209**	**209**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 236,786	$ 241,522	$ 246,352	$ 251,279	$ 256,305	$ 261,431	$ 266,659	$ 271,992	$ 277,432	$ 282,981
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ 5,603	$ 820,701	$ 81,424	$ 24,609	$ 68,147	$ 269,565	$ -	$ 259,999	$ 3,216,100
Inflated	$ -	$ 5,715	$ 853,857	$ 86,408	$ 26,637	$ 75,240	$ 303,574	$ -	$ 304,631	$ 3,843,538
Interest										
Interest on Changes in Balance	$ 2,368	$ 2,358	$ (6,075)	$ 1,649	$ 2,297	$ 1,862	$ (369)	$ 2,720	$ (272)	$ (35,606)
Interest on Opening Balance	$ 4,828	$ 10,927	$ 17,155	$ 2,244	$ 6,463	$ 12,424	$ 17,436	$ 16,940	$ 24,231	$ 24,150
Interest	$ 7,196	$ 13,285	$ 11,080	$ 3,893	$ 8,760	$ 14,286	$ 17,067	$ 19,659	$ 23,959	$ (11,456)
Closing Cash Balance	$ 437,097	$ 686,188	$ 89,763	$ 258,527	$ 496,954	$ 697,431	$ 677,583	$ 969,235	$ 965,995	$ (2,606,017)

2018 Adjusted Residential Charge Per Capita	**$ 1,131.71**	$ -

RESIDENTIAL CASH FLOW (Continued)

2031	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
$ (2,606,017)	$ (2,414,367)	$ (2,212,789)	$ (2,000,933)	$ (1,778,437)	$ (1,590,337)	$ (1,346,567)	$ (1,091,032)	$ (823,324)	$ (543,024)	$ (305,404)
207	**207**	**207**	**207**	**207**	**207**	**207**	**207**	**207**	**207**	**207**
$ 285,305	$ 291,011	$ 296,831	$ 302,768	$ 308,823	$ 315,000	$ 321,300	$ 327,726	$ 334,280	$ 340,966	$ 347,785
$ 25,469	$ 25,469	$ 25,469	$ 25,469	$ 59,543	$ 25,469	$ 25,469	$ 25,469	$ 25,469	$ 63,329	$ 25,469
$ 31,047	$ 31,668	$ 32,301	$ 32,947	$ 78,565	$ 34,278	$ 34,964	$ 35,663	$ 36,376	$ 92,258	$ 37,846
$ 2,543	$ 2,593	$ 2,645	$ 2,698	$ 2,303	$ 2,807	$ 2,863	$ 2,921	$ 2,979	$ 2,487	$ 3,099
$ (65,150)	$ (60,359)	$ (55,320)	$ (50,023)	$ (44,461)	$ (39,758)	$ (33,664)	$ (27,276)	$ (20,583)	$ (13,576)	$ (7,635)
$ (62,608)	$ (57,766)	$ (52,674)	$ (47,325)	$ (42,158)	$ (36,951)	$ (30,801)	$ (24,355)	$ (17,604)	$ (11,089)	$ (4,536)
$ (2,414,367)	$ (2,212,789)	$ (2,000,933)	$ (1,778,437)	$ (1,590,337)	$ (1,346,567)	$ (1,091,032)	$ (823,324)	$ (543,024)	$ (305,404)	$ -

Appendix E-7
Table 2
Township of Wellington North
Water Services
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Water Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 61,927	$ 160,414	$ 261,450	$ 92,294	$ 169,488	$ 270,027	$ 359,438	$ 379,270	$ 500,104	$ 527,522
Non-Residential Growth in Square Feet	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 95,979	$ 97,898	$ 99,856	$ 101,854	$ 103,891	$ 105,968	$ 108,088	$ 110,250	$ 112,455	$ 114,704
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ -	$ 1,797	$ 263,177	$ 26,110	$ 7,891	$ 21,853	$ 86,442	$ -	$ 83,375	$ 1,031,318
Inflated	$ -	$ 1,833	$ 273,809	$ 27,709	$ 8,542	$ 24,127	$ 97,348	$ -	$ 97,687	$ 1,232,520
Interest										
Interest on Changes in Balance	$ 960	$ 961	$ (1,740)	$ 741	$ 953	$ 818	$ 107	$ 1,102	$ 148	$ (11,178)
Interest on Opening Balance	$ 1,548	$ 4,010	$ 6,536	$ 2,307	$ 4,237	$ 6,751	$ 8,986	$ 9,482	$ 12,503	$ 13,188
Interest	$ 2,508	$ 4,971	$ 4,797	$ 3,049	$ 5,191	$ 7,569	$ 9,093	$ 10,584	$ 12,650	$ 2,010
Closing Cash Balance	$ 160,414	$ 261,450	$ 92,294	$ 169,488	$ 270,027	$ 359,438	$ 379,270	$ 500,104	$ 527,522	$ (588,285)

2018 Adjusted Non-Residential Charge Per Square Metre	**$ 1.41**

NON-RESIDENTIAL CASH FLOW (Continued)

2031	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
$ (588,285)	$ (544,264)	$ (497,967)	$ (449,315)	$ (398,225)	$ (359,172)	$ (303,310)	$ (244,755)	$ (183,413)	$ (119,188)	$ (69,845)
39,571	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**
$ 68,103	$ 69,465	$ 70,854	$ 72,271	$ 73,717	$ 75,191	$ 76,695	$ 78,229	$ 79,794	$ 81,389	$ 83,017
$ 8,167	$ 8,167	$ 8,167	$ 8,167	$ 19,094	$ 8,167	$ 8,167	$ 8,167	$ 8,167	$ 20,308	$ 8,167
$ 9,956	$ 10,155	$ 10,358	$ 10,565	$ 25,194	$ 10,992	$ 11,212	$ 11,436	$ 11,665	$ 29,585	$ 12,136
$ 581	$ 593	$ 605	$ 617	$ 485	$ 642	$ 655	$ 668	$ 681	$ 518	$ 709
$ (14,707)	$ (13,607)	$ (12,449)	$ (11,233)	$ (9,956)	$ (8,979)	$ (7,583)	$ (6,119)	$ (4,585)	$ (2,980)	$ (1,746)
$ (14,126)	$ (13,013)	$ (11,844)	$ (10,616)	$ (9,470)	$ (8,337)	$ (6,928)	$ (5,451)	$ (3,904)	$ (2,462)	$ (1,037)
$ (544,264)	$ (497,967)	$ (449,315)	$ (398,225)	$ (359,172)	$ (303,310)	$ (244,755)	$ (183,413)	$ (119,188)	$ (69,845)	$ (1)

Appendix E-8
Table 1
Township of Wellington North
Wastewater Services
Cash Analysis and Adjusted Charges

RESIDENTIAL CASH FLOW

Wastewater Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
								0		
Opening Cash Balance	$ 200,474	$ 436,909	$ 679,827	$ (1,158,313)	$ (949,821)	$ (1,772,258)	$ (1,463,968)	$ (1,178,126)	$ (761,676)	$ (587,231)
Residential Population Growth in New Units	**209**	**209**	**209**	**209**	**209**	**209**	**209**	**209**	**209**	**209**
Receipts										
Residential Development Charge Receipts (Inflated)	$ 732,953	$ 747,612	$ 762,564	$ 777,815	$ 793,372	$ 809,239	$ 825,424	$ 841,932	$ 858,771	$ 875,946
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 503,821	$ 507,758	$ 2,498,397	$ 511,414	$ 1,463,514	$ 416,758	$ 449,468	$ 348,610	$ 569,449	$ 1,332,530
Inflated	$ 503,821	$ 517,914	$ 2,599,332	$ 542,716	$ 1,584,155	$ 460,134	$ 506,174	$ 400,444	$ 667,200	$ 1,592,497
Interest										
Interest on Changes in Balance	$ 2,291	$ 2,297	$ (18,368)	$ 2,351	$ (7,908)	$ 3,491	$ 3,192	$ 4,415	$ 1,916	$ (7,166)
Interest on Opening Balance	$ 5,012	$ 10,923	$ 16,996	$ (28,958)	$ (23,746)	$ (44,306)	$ (36,599)	$ (29,453)	$ (19,042)	$ (14,681)
Interest	$ 7,303	$ 13,220	$ (1,372)	$ (26,607)	$ (31,653)	$ (40,815)	$ (33,407)	$ (25,038)	$ (17,126)	$ (21,846)
Closing Cash Balance	$ 436,909	$ 679,827	$ (1,158,313)	$ (949,821)	$ (1,772,258)	$ (1,463,968)	$ (1,178,126)	$ (761,676)	$ (587,231)	$ (1,325,627)

2018 Adjusted Residential Charge Per Capita	**$ 3,503.11**	$ -

RESIDENTIAL CASH FLOW (Continued)

2031	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
$ (1,325,627)	$ (8,292,847)	$ (7,622,342)	$ (6,917,518)	$ (6,177,165)	$ (5,445,447)	$ (4,631,396)	$ (3,777,990)	$ (2,883,865)	$ (1,947,615)	$ (1,023,497)
207	**207**	**207**	**207**	**207**	**207**	**207**	**207**	**207**	**207**	**207**
$ 883,140	$ 900,803	$ 918,819	$ 937,195	$ 955,939	$ 975,058	$ 994,559	$ 1,014,450	$ 1,034,739	$ 1,055,434	$ 1,076,543
$ 6,356,522	$ 25,469	$ 25,469	$ 25,469	$ 59,543	$ 25,469	$ 25,469	$ 25,469	$ 25,469	$ 63,329	$ 25,469
$ 7,748,565	$ 31,668	$ 32,301	$ 32,947	$ 78,565	$ 34,278	$ 34,964	$ 35,663	$ 36,376	$ 92,258	$ 37,846
$ (68,654)	$ 8,691	$ 8,865	$ 9,042	$ 8,774	$ 9,408	$ 9,596	$ 9,788	$ 9,984	$ 9,632	$ 10,387
$ (33,141)	$ (207,321)	$ (190,559)	$ (172,938)	$ (154,429)	$ (136,136)	$ (115,785)	$ (94,450)	$ (72,097)	$ (48,690)	$ (25,587)
$ (101,795)	$ (198,630)	$ (181,693)	$ (163,895)	$ (145,655)	$ (126,728)	$ (106,189)	$ (84,662)	$ (62,113)	$ (39,059)	$ (15,200)
$ (8,292,847)	$ (7,622,342)	$ (6,917,518)	$ (6,177,165)	$ (5,445,447)	$ (4,631,396)	$ (3,777,990)	$ (2,883,865)	$ (1,947,615)	$ (1,023,497)	$ -

Appendix E-8
Table 2
Township of Wellington North
Wastewater Services
Cash Analysis and Adjusted Charges

NON-RESIDENTIAL CASH FLOW

Wastewater Services	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Opening Cash Balance	$ 64,287	$ 202,783	$ 346,178	$ (174,851)	$ (36,564)	$ (225,753)	$ (49,128)	$ 123,628	$ 341,705	$ 485,730
Non-Residential Growth in Square Feet	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**	**67,981**
Receipts										
Non-Residential Development Charge Receipts (Inflated)	$ 297,095	$ 303,037	$ 309,098	$ 315,280	$ 321,586	$ 328,017	$ 334,578	$ 341,269	$ 348,095	$ 355,056
Disbursements										
2018-2027 Development Charge Disbursements										
Uninflated	$ 161,562	$ 162,825	$ 801,169	$ 163,997	$ 469,310	$ 133,643	$ 144,132	$ 111,790	$ 182,607	$ 427,307
Inflated	$ 161,562	$ 166,081	$ 833,536	$ 174,035	$ 507,996	$ 147,553	$ 162,317	$ 128,412	$ 213,953	$ 510,671
Interest										
Interest on Changes in Balance	$ 1,355	$ 1,370	$ (5,244)	$ 1,412	$ (1,864)	$ 1,805	$ 1,723	$ 2,129	$ 1,341	$ (1,556)
Interest on Opening Balance	$ 1,607	$ 5,070	$ 8,654	$ (4,371)	$ (914)	$ (5,644)	$ (1,228)	$ 3,091	$ 8,543	$ 12,143
Interest	$ 2,963	$ 6,439	$ 3,410	$ (2,959)	$ (2,778)	$ (3,839)	$ 494	$ 5,219	$ 9,884	$ 10,587
Closing Cash Balance	$ 202,783	$ 346,178	$ (174,851)	$ (36,564)	$ (225,753)	$ (49,128)	$ 123,628	$ 341,705	$ 485,730	$ 340,702

2018 Adjusted Non-Residential Charge Per Square Metre	**$ 4.37**	
		$ -

NON-RESIDENTIAL CASH FLOW (Continued)

2031	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
$ 340,702	$ (1,947,471)	$ (1,789,240)	$ (1,622,915)	$ (1,448,211)	$ (1,279,395)	$ (1,087,406)	$ (886,137)	$ (675,268)	$ (454,466)	$ (241,254)
39,571	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**	**39,571**
$ 210,808	$ 215,024	$ 219,324	$ 223,711	$ 228,185	$ 232,749	$ 237,404	$ 242,152	$ 246,995	$ 251,935	$ 256,973
$ 2,038,367	$ 8,167	$ 8,167	$ 8,167	$ 19,094	$ 8,167	$ 8,167	$ 8,167	$ 8,167	$ 20,308	$ 8,167
$ 2,484,759	$ 10,155	$ 10,358	$ 10,565	$ 25,194	$ 10,992	$ 11,212	$ 11,436	$ 11,665	$ 29,585	$ 12,136
$ (22,740)	$ 2,049	$ 2,090	$ 2,131	$ 2,030	$ 2,218	$ 2,262	$ 2,307	$ 2,353	$ 2,224	$ 2,448
$ 8,518	$ (48,687)	$ (44,731)	$ (40,573)	$ (36,205)	$ (31,985)	$ (27,185)	$ (22,153)	$ (16,882)	$ (11,362)	$ (6,031)
$ (14,222)	$ (46,638)	$ (42,641)	$ (38,441)	$ (34,175)	$ (29,767)	$ (24,923)	$ (19,846)	$ (14,528)	$ (9,138)	$ (3,583)
$ (1,947,471)	$ (1,789,240)	$ (1,622,915)	$ (1,448,211)	$ (1,279,395)	$ (1,087,406)	$ (886,137)	$ (675,268)	$ (454,466)	$ (241,254)	$ -

Appendix F

OPERATING, CAPITAL & ASSET MANAGEMENT COST IMPLICATIONS

Appendix F
Table 1
Township of Wellington North
Long-Term Operating Cost Impacts

Cummulative Net Operating Impacts Service	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Administration - Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Parks Services	$ -	$ 18,583	$ 22,299	$ 65,504	$ 75,724	$ 120,787	$ 160,739	$ 200,228	$ 200,228	$ 200,228	$ 1,064,318
Recreation Services	$ -	$ -	$ 288,030	$ 365,654	$ 365,654	$ 365,654	$ 374,945	$ 374,945	$ 374,945	$ 374,945	$ 2,884,771
By-Law Enforcement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Fire Protection Services	$ -	$ -	$ 323,180	$ 323,180	$ 339,339	$ 339,339	$ 339,339	$ 339,339	$ 339,339	$ 339,339	$ 2,682,396
Roads and Related	$ -	$ 99,079	$ 233,635	$ 239,405	$ 239,405	$ 239,405	$ 289,065	$ 289,065	$ 297,670	$ 297,670	$ 2,224,399
Water Servcies	$ -	$ 27,179	$ 31,078	$ 31,078	$ 31,078	$ 48,005	$ 48,005	$ 69,664	$ 481,501	$ 481,501	$ 1,249,088
Wastewater Services	$ -	$ 68,298	$ 265,010	$ 267,580	$ 821,919	$ 821,919	$ 846,575	$ 846,575	$ 868,170	$ 1,031,685	$ 5,837,731
Total Cummulative Net Operating Impacts	**$ -**	**$ 213,140**	**$ 1,163,233**	**$ 1,292,400**	**$ 1,873,118**	**$ 1,935,108**	**$ 2,058,668**	**$ 2,119,815**	**$ 2,561,852**	**$ 2,725,367**	**$ 15,942,703**

Appendix F
Table 2
Township of Wellington North
Long-Term Capital Cost Implications

Cummulative Net Capital Cost Impacts Service	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Administration - Studies	$ -	$ -	$ 43,500	$ -	$ -	$ -	$ 21,750	$ -	$ -	$ -	$ 65,250
Parks Services	$ -	$ 174,000	$ 34,800	$ 191,400	$ 308,850	$ 421,950	$ 269,700	$ 261,000	$ -	$ -	$ 1,661,700
Recreation Services	$ -	$ -	$ 2,697,000	$ -	$ -	$ -	$ 87,000	$ -	$ -	$ -	$ 2,784,000
By-Law Enforcement	$ -	$ 8,700	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,700
Fire Protection Services	$ -	$ -	$ 1,740,000	$ -	$ 87,000	$ -	$ -	$ -	$ -	$ -	$ 1,827,000
Roads and Related	$ -	$ 2,628,600	$ 4,835,773	$ 139,459	$ -	$ -	$ 1,716,327	$ -	$ 324,480	$ 411,400	$ 10,056,039
Water Servcies	$ -	$ 12,600	$ 484,928	$ 26,884	$ -	$ -	$ 227,612	$ -	$ 403,403	$ 10,122,298	$ 11,277,724
Wastewater Services	$ -	$ 14,800	$ 522,751	$ 28,540	$ 1,814,326	$ -	$ 236,800	$ -	$ 32,406	$ 2,718,620	$ 5,368,242
Total Capital Cost Impacts	**$ -**	**$ 2,838,700**	**$ 10,358,752**	**$ 386,282**	**$ 2,210,176**	**$ 421,950**	**$ 2,559,188**	**$ 261,000**	**$ 760,289**	**$ 13,252,318**	**$ 33,048,655**

Appendix F
Table 3
Township of Wellington North
Asset Management Plan - Annual Lifecycle Cost Implications

Cummulative Lifecycle Impacts Service	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Administration - Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Parks Services	$ -	$ 7,457	$ 12,090	$ 30,129	$ 34,482	$ 54,057	$ 71,759	$ 89,605	$ 89,605	$ 89,605	$ 478,789
Recreation Services	$ -	$ -	$ 117,901	$ 150,311	$ 150,311	$ 150,311	$ 150,311	$ 150,311	$ 150,311	$ 150,311	$ 1,170,075
By-Law Enforcement	$ -	$ 1,136	$ 1,136	$ 1,136	$ 1,136	$ 1,136	$ 1,136	$ 1,136	$ 1,136	$ 1,136	$ 10,220
Fire Protection Services	$ -	$ -	$ 76,065	$ 76,065	$ 80,022	$ 80,022	$ 80,022	$ 80,022	$ 80,022	$ 80,022	$ 632,263
Roads and Related	$ -	$ 122,930	$ 328,357	$ 335,805	$ 335,805	$ 335,805	$ 429,498	$ 429,498	$ 441,761	$ 441,761	$ 3,201,220
Wastewater Services	$ -	$ 40,487	$ 117,761	$ 118,790	$ 345,347	$ 345,347	$ 355,831	$ 355,831	$ 365,384	$ 439,168	$ 2,483,946
Water Services	$ -	$ 2,271	$ 47,072	$ 50,662	$ 50,662	$ 50,662	$ 67,198	$ 67,198	$ 89,213	$ 516,190	$ 941,128
Total Lifecycle Cost Impacts	**$ -**	**$ 174,281**	**$ 700,383**	**$ 762,897**	**$ 997,763**	**$ 1,017,338**	**$ 1,155,754**	**$ 1,173,600**	**$ 1,217,432**	**$ 1,718,192**	**$ 8,917,640**

Appendix G

PROPOSED DEVELOPMENT CHARGES BY-LAW

THE CORPORATION OF THE TOWNSHIP OF WELLINGTON NORTH

BY-LAW NUMBER XX-22

A BY-LAW FOR THE IMPOSITION OF DEVELOPMENT CHARGES

WHEREAS the Township of Wellington North will experience growth through development and re-development;

AND WHEREAS development and re-development requires the provision of physical and social services by the Township of Wellington North;

AND WHEREAS Council desires to ensure that the capital cost of meeting growth-related demands for, or burden on, municipal services does not place an excessive financial burden on the Township of Wellington North or its existing taxpayers while at the same time ensuring new taxpayers contribute no more than the net capital cost attributable to providing the current level of municipal services;

AND WHEREAS the *Development Charges Act, 1997* (the "Act") provides that the Council of a municipality may by by-law impose development charges against land to pay for increased capital costs required because of increased needs for services;

AND WHEREAS a development charge background study has been completed in accordance with the Act;

AND WHEREAS the Council of The Corporation of the Township of Wellington North has given notice of and held a public meeting on Thursday the 10th of February 2022 in accordance with the Act and the regulations thereto;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF WELLINGTON NORTH ENACTS AS FOLLOWS:

1. INTERPRETATION

1.1 In this By-law the following items shall have the corresponding meanings:

"Act" means the *Development Charges Act, 1997,* as amended, or any successor thereof;

"Accessory" when used to describe a building or structure, means a use, building or structure which is incidental, subordinate, and exclusively devoted to the main use, building, or structure located on the same lot;

“Agricultural Use” means use or intended use for a bona fide farming operation;

“Apartment Unit” means any residential unit within a building containing more than four dwelling units where the units are connected by an interior corridor;

“Bedroom” means a habitable room which can be used as sleeping quarters, but does not include a bathroom, living room, dining room or kitchen;

“Board of Education” has the same meaning as set out in the *Education Act*, R.S.O. 1990, Chap. E.2, as amended, or any successor thereof;

“Bona Fide Farming Operation” means the proposed development will qualify as a farm business, and shall include new farming operations and farm operations associated with the Mennonite community;

“Building Code Act” means the *Building Code Act*, S.O. 1992, as amended, or any successor thereof;

“Capital Cost” means costs incurred or proposed to be incurred by the municipality or a local board thereof directly or by others on behalf of and as authorized by the municipality or local board,

(a) to acquire land or an interest in land, including a leasehold interest,
(b) to improve land,
(c) to acquire, lease, construct or improve buildings and structures,
(d) to acquire, construct or improve facilities including,
    (i) furniture and equipment other than computer equipment, and
    (ii) material acquired for circulation, reference or information purposes by a library board as defined in the *Public Libraries Act*, R.S.O. 1990, Chap. P.44, as amended, or any successor thereof; and
    (iii) rolling stock with an estimated useful life of seven years or more, and
(e) to undertake studies in connection with any matter under the Act and any of the matters in clauses (a) to (d) above, including the development charge background study required for the provision of services designated in this By-law within or outside the municipality, including interest on borrowing for those expenditures under clauses (a) to (e) above that are growth-related;

“Commercial” means any use of land, structures or buildings for the purposes of buying or selling commodities and services, but does not include industrial or agricultural uses, but does include hotels, motels, motor inns and boarding, lodging and rooming houses;

“Council” means the Council of the municipality;

"Development" means the construction, erection or placing of one or more buildings or structures on land or the making of an addition or alteration to a building or structure that the effect of increasing the size of usability thereof, and includes redevelopment;

"Development Charge" means a charge imposed with respect to this By-law;

"Dwelling Unit" means any part of a building or structure used, designed or intended to be used as a domestic establishment in which one or more persons may sleep and are provided with culinary and sanitary facilities for their exclusive use;

"Existing Industrial Building" means a building or buildings existing on a site as of June 17, 2013, or the first building or buildings constructed on a vacant site pursuant to site plan approval, under Section 41 of the Planning Act, subsequent June 17, 2013, that is used for or in conjunction with:

a) the production, compounding, processing, packaging, crating, bottling, packing or assembly of raw or semi-processed goods or materials in not less than seventy five percent of the total gross floor area of the building or buildings on a site ("manufacturing") or warehousing related to the manufacturing use carried on in the building or buildings;
b) research or development activities in connection with manufacturing in not less than seventy five percent of the total gross floor area of the building or building on the site;
c) retail sales by a manufacturer, if retail sales are at the site where manufacturing is carried out; such retail sales are restricted to goods manufactured at the site, and the building or part of a building where such retail sales are carried out does not constitute greater than twenty five percent of the total gross floor area of the building or buildings on the site; or
d) office or administration purposes if they are:
    i. carried out as an accessory use to the manufacturing or warehousing, and
    ii. in or attached to the building or structure used for such manufacturing or warehousing.

"Existing" means the number, use and size that existed as of June 17, 2013, or the date of the first building or buildings constructed on a vacant site pursuant to site plan approval, under Section 41 of the Planning Act, subsequent June 17, 2013.

"Gross Floor Area" means:

(a) in the case of a residential building or structure, the total area of all floors above grade of a dwelling unit measured between the outside surfaces of

exterior walls or between the outside surfaces of exterior walls and the centre line of party walls dividing the dwelling unit from any other dwelling unit or other portion of a building; and

(b) in the case of a non-residential building or structure, or in the case of a mixed-use building or structure in respect of the non-residential portion thereof, the total area of all building floors above or below grade measured between the outside surfaces of the exterior walls, or between the outside surfaces of exterior walls and the centre line of party walls dividing a non-residential use and a residential use, except for:

(i) a room or enclosed area within the building or structure above or below that is used exclusively for the accommodation of heating, cooling, ventilating, electrical, mechanical or telecommunications equipment that service the building;
(ii) loading facilities above or below grade; and
(iii) a part of the building or structure below grade that is used for the parking of motor vehicles or for storage or other accessory use;

"Industrial" means lands, buildings or structures used or designed or intended for use for manufacturing, processing, fabricating or assembly of raw goods, and includes office uses and the sale of commodities to the general public where such uses are accessory to an industrial use, but does not include warehousing or bulk storage of goods;

“Institutional” means land, buildings, structures or any part thereof used by any organization, group or association for promotion of charitable, educational or benevolent objectives and not for profit or gain;

“Local Board” means a school board, public utility, commission, transportation commission, public library board, board of park management, local board of health, board of commissioners of police, planning board, or any other board, commission, committee, body or local authority established or exercising any power or authority under any general or special Act with respect to any of the affairs or purposes, including school purposes, of the Township of Wellington North or any part or parts thereof;

“Local Services” means those services, facilities or things which are under the jurisdiction of the municipality and are related to a plan of subdivision or within the area to which the plan relates in respect of the lands under Sections 41, 51 or 53 of the *Planning Act*, R.S.O. 1990, Chap. P.13, as amended, or any successor thereof;

"Mini-storage Facility" means a building containing separate, individual self-storage units divided from floor to ceiling by a wall with an independent entrance from the exterior or public corridor of the building; designed to be rented or leased

on a short-term basis to the general public for private storage of personal goods, materials and equip ment;

“Multiple Dwellings” means all dwellings other than single-detached, semi-detached and apartment unit dwellings;

“Municipality” means the Corporation of the Township of Wellington North;

“Non-residential Use” means a building or structure, of any kind whatsoever, used, designed, or intended to be used for other than a residential use;

“Official Plan” means the Official Plan adopted for the Township, as amended and approved;

“Owner” means the owner of land or a person who has made application for an approval for the development of land upon which a development charge is imposed’

“Place of Worship” means that part of a building or structure that is exempt from taxation as a place of worship under the Assessment Act, R.S.O. 1990, Chap. A.31, as amended, or any successor thereof;

“Purpose-Built Rental Housing” means a residential use building or structure that consists of four (4) or more dwelling units that will remain as rental housing for a period of at least 20 years from the date of issuance of a building permit.

“Rate” means the interest rate established weekly by the Bank of Canada based on Treasury Bills having a term of 91 days;

“Regulation” means any regulation made pursuant to the Act;

“Residential Dwelling” means a building, occupied or capable of being occupied as a home, residence or sleeping place by one or more persons, containing one or more Dwelling Units but not including motels, hotels, tents, truck campers, tourist trailers, mobile camper trailers or boarding, lodging or rooming houses;

“Residential Use” means the use of a building or structure or portion thereof for one or more Dwelling Units. This also includes a Dwelling Unit on land that is used for an Agricultural Use;

“Row Dwelling” means a building containing three or more attached dwelling units in a single row, each of which dwelling units has an independent entrance from the outside and is vertically separated from any abutting dwelling unit;

“Semi-detached Dwelling” means a building divided vertically into two dwelling units each of which has a separate entrance and access to grade;

"Service" means a service designed in Schedule "A" to this By-law, and "services" shall have a corresponding meaning;

"Single Detached Dwelling Unit" means a residential building consisting of one dwelling unit and not attached to another structure;

"Township" means the area within the geographic limits of the Township of Wellington North;

"Transport Establishment" means the use of land, buildings, structures or parts thereof, where commercially licensed transport trucks, tractor trailers and buses are rented, leased, loaded or unloaded, serviced or repaired, kept for hire, stored or parked for dispatching as common carriers or where goods are temporarily stored for further shipment;

"Warehouse" means a building or part thereof used for packaging, storage and distribution of goods, wares, merchandise, foodstuff, substances or articles and may include off-season storage but does not include a mini-storage establishment, transport establishment or the sale of commodities to the general public through a warehouse club;

"Wind Turbine" means a part of a wind energy system used for commercial purposes that converts energy into electricity, and consists of one or more wind turbines on a lot with a total name plate capacity of 100 kW or more, a tower and associated control or conversion electronics. A wind turbine and energy system may be connected to the electricity grid in circuits at a substation to provide electricity off-site for sale to an electrical utility or other intermediaries; and

"Zoning By-Law" means the Zoning By-Law of the Township of Wellington North, or any successor thereof passed pursuant to Section 34 of the Planning Act, S.O. 1990.

2. DESIGNATION OF SERVICES

2.1 The categories of services for which development charges are imposed under this By-law are as follows:

(a) Water, if water service is available
(b) Wastewater, if wastewater service is available;
(c) Roads and Related;
(d) Fire Protection Services;
(e) By-Law Enforcement;
(f) Parks;
(g) Recreation; and
(h) Administration.

2.2 The components of the services designated in section 2.1 are described in Schedule A.

3. APPLICATION OF BY-LAW RULES

3.1 Development charges shall be payable in the amounts set out in this By-law where:

(a) the lands are located in the area described in section 3.2; and

(b) the development of the lands requires any of the approvals set out in subsection 3.4(a).

Area to Which By-law Applies

3.2 Subject to section 3.3, this By-law applies to all lands in the Township of Wellington North whether or not the land or use thereof is exempt from taxation under s. 13 or the Assessment Act.

3.3. Notwithstanding clause 3.2 above, this by-law shall not apply to lands that are owned by and used for the purposes of:
(a) the municipality or a local board thereof;
(b) a board of education;
(c) the Corporation of the County of Wellington or a local board thereof; and
(d) North Wellington Healthcare Corporation.

Approvals for Development

3.4 (a) Development charges shall be imposed on all lands, buildings or structures that are developed for residential or non-residential uses if the development requires:

(i) the passing of a zoning by-law or of an amendment to a zoning by-law under section 34 of the *Planning Act*;
(ii) the approval of a minor variance under section 45 of the *Planning Act*;
(iii) a conveyance of land to which a by-law passed under subsection 50(7) of the *Planning Act* applies;
(iv) the approval of a plan of subdivision under section 51 of the *Planning Act*;
(v) a consent under section 53 of the *Planning Act*;
(vi) the approval of a description under section 50 of the *Condominium Act*, R.S.O. 1990, Chap. C.26, as amended, or any successor thereof; or
(vii) the issuing of a permit under the *Building Code Act* in relation to a building or structure.

(b) No more than one development charge for each service designated in subsection 2.1 shall be imposed upon any lands, buildings or structures to which this By-law applies even though two or more of the actions described in subsection 3.4(a) are required before the lands, buildings or structures can be developed.

(c) Despite subsection 3.4(b), if two or more of the actions described in subsection 3.4(a) occur at different times, additional development charges shall be imposed if the subsequent action has the effect of increasing the need for services.

Exemptions

3.5 Notwithstanding the provisions of this By-law, development charges shall not be imposed with respect to:

(a) an enlargement to an existing dwelling unit;
(b) the creation of one or two additional dwelling units in an existing single detached dwelling, each of which contains a single dwelling unit, that are not attached to other buildings, as long as the total gross floor area of the additional dwelling unit or units are less than or equal to the gross floor area of the dwelling unit already in the building;
(c) the creation of one additional dwelling unit in an existing semi-detached dwelling or row dwelling, each of which contains a single dwelling unit, that have one or two vertical walls, but no other parts, attached to other buildings, as long as the total gross floor area of the additional dwelling unit is less than or equal to the gross floor area of the dwelling unit already in the building;
(d) the creation of additional dwelling units equal to the greater of one or 1% of the existing dwelling units in an existing residential rental building containing four or more dwelling units;
(e) the creation of one additional dwelling unit in any other existing residential building not identified in b) to d) above, as long as the additional unit is less than or equal to the gross floor area of the smallest dwelling unit already in the building;
(f) the creation of a second dwelling unit in prescribed classes of proposed new residential buildings, including structures ancillary to dwellings, subject to the following restrictions:

Item	Name of Class of Proposed New Residential Buildings	Description of Class of Proposed New Residential Buildings	Restrictions
1.	Proposed new detached dwellings	Proposed new residential buildings that would not be attached to other buildings and that are permitted to contain a second dwelling unit, that being either of the two dwelling units, if the units have the same gross floor area, or the smaller of the dwelling units.	The proposed new detached dwelling must only contain two dwelling units. The proposed new detached dwelling must be located on a parcel of land on which no other detached dwelling, semi-detached dwelling or row dwelling would be located.
2.	Proposed new semi-detached dwellings or row dwellings	Proposed new residential buildings that would have one or two vertical walls, but no other parts, attached to other buildings and that are permitted to contain a second dwelling unit, that being either of the two dwelling units, if the units have the same gross floor area, or the smaller of the dwelling units.	The proposed new semi-detached dwelling or row dwelling must only contain two dwelling units. The proposed new semi-detached dwelling or row dwelling must be located on a parcel of land on which no other detached dwelling, semi-detached dwelling or row dwelling would be located.
3.	Proposed new residential buildings that would be ancillary to a proposed new detached dwelling, semi-detached dwelling or row dwelling	Proposed new residential buildings that would be ancillary to a proposed new detached dwelling, semi-detached dwelling or row dwelling and that are permitted to contain a single dwelling unit.	The proposed new detached dwelling, semi-detached dwelling or row dwelling, to which the proposed new residential building would be ancillary, must only contain one dwelling unit. The gross floor area of the dwelling unit in the proposed new residential building must be equal to or less than the gross floor area of the detached dwelling, semi-detached dwelling or row dwelling to which the proposed new residential building is ancillary.

3.6 Notwithstanding section 3.5(b), development charges shall be imposed if the total gross floor area of the additional one or two units exceeds the gross floor area of the existing dwelling unit.

3.7 Notwithstanding section 3.5(d), development charges shall be imposed if the additional unit has a gross floor area greater than:

i. in the case of a semi-detached or row dwelling, the gross floor area of the existing dwelling unit; and
ii. in the case of any other residential building, the gross floor area of the smallest dwelling unit contained in the residential building.

3.8 <u>Exemption for Industrial Expansion:</u>

3.8.1 Notwithstanding any other provision of this by-law, if a development includes the enlargement of the gross floor area of an existing industrial building.

1. made pursuant to the Act. there shall be an exemption from the payment of development charges for one or more enlargements of an existing industrial building on its site, whether attached or separate from the existing industrial building, up to a maximum of fifty per cent of the gross floor area before the first enlargement for which an exemption from the payment of development charges was

granted pursuant to the Development Charges Act or this subsection. Development charges shall be imposed in accordance with Schedule "B" with respect to the amount of floor area of an enlargement that results in the gross floor area of the industrial building being increased by greater than fifty per cent of the gross floor area of the existing industrial building; or

2. if the gross floor area is enlarged by more than 50 percent, development charges are payable on the amount by which the enlargement exceeds 50 percent of the gross floor area before the enlargement.

3.9 Other Exemptions:

Notwithstanding the provision of this by-law, development charges shall not be imposed with respect to:

a) Bona fide farm uses used for farming purposes and includes ancillary agricultural uses such as non-residential accessory buildings or structures, storage buildings or structures and driving sheds, but does not include buildings or structures used for residential purposes;
b) A place of worship;
c) A hospital under the *Public Hospitals Act*; and
d) Buildings and structures ancillary to a residential use.

Amount of Charges

3.10 Residential

The development charges set out in Schedule B shall be imposed on residential uses of lands, buildings or structures, including a dwelling unit accessory to a non-residential use and, in the case of a mixed use building or structure, on the residential uses in the mixed use building or structure, according to the type of residential unit, and calculated with respect to each of the services according to the type of residential use.

3.11 Non-Residential

The development charges described in Schedule B to this by-law shall be imposed on non-residential uses of lands, buildings or structures, and, in the case of a mixed use building or structure, on the non-residential uses in the mixed use building or structure, and calculated with respect to each of the services according to the total floor area of the non-residential use.

3.12 Built Boundary

Development charges described in Schedule B to this by-law shall be reduced by 10% on all development occurring on lands within the Built Boundary as highlighted in Schedule C-1 and Schedule C-2.

3.13 Central Intensification Corridor

Development charges described in Schedule B to this by-law shall be reduced by 25% on all development occurring on lands within the Central Intensification Corridor as highlighted in Schedule D-1 and Schedule D-2.

3.14 Purpose-Built Rental Housing

Development that meets the definition of Purpose-Built Rental Housing may be eligible for an additional 25% reduction in development charges as described in Schedule B to this by-law.

3.15 Reduction of Development Charges for Redevelopment

Despite any other provisions of this By-law, where, as a result of the redevelopment of land, a building or structure existing on the same land within 5 years prior to the date of payment of development charges in regard to such redevelopment was, or is to be demolished, in whole or in part, or converted from one principal use to another principal use on the same land, in order to facilitate the redevelopment, the development charges otherwise payable with respect to such redevelopment shall be reduced by the following amounts:

(a) in the case of a residential building or structure, or in the case of a mixed-use building or structure, the residential uses in the mixed-use building or structure, an amount calculated by multiplying the applicable development charge under subsection 3.10 by the number, according to type, of dwelling units that have been or will be demolished or converted to another principal use; and

(b) in the case of a non-residential building or structure or, in the case of mixed-use building or structure, the non-residential uses in the mixed-use building or structure, an amount calculated by multiplying the applicable development charges under subsection 3.11, by the gross floor area that has been or will be demolished or converted to another principal use;

provided that such amounts shall not exceed, in total, the amount of the development charges otherwise payable with respect to the redevelopment.

Time of Payment of Development Charges

3.16 Development charges imposed under this by-law are calculated, payable, and collected upon issuance of a building permit for the development.

3.17 Notwithstanding subsections 3.16, development charges for rental housing and institutional developments are due and payable in 6 installments commencing with the first installment payable on the date of occupancy, and each subsequent installment, including interest as provided in the Township's Council approved development charge interest policy, as may be revised from time to time.

3.18 Notwithstanding subsections 3.16, development charges for non-profit housing developments are due and payable in 21 installments commencing with the first installment payable on the date of occupancy, and each subsequent installment, including interest as provided in the Township's Council approved development charge interest policy, as may be revised from time to time.

3.19 Where the development of land results from the approval of a site plan or zoning by-law amendment received on or after January 1, 2020, and the approval of the application occurred within two years of building permit issuance, the development charges under subsections 3.10 and 3.11 shall be calculated on the rates set out in Schedule "B" on the date of the planning application, including interest. Where both planning applications apply development charges under subsections 3.10 and 3.11 shall be calculated on the rates, including interest as provided in the Township's Council approved development charge interest policy, as may be revised from time to time, payable on the anniversary date each year thereafter, set out in Schedule "B" on the date of the later planning application, including interest.

3.20 Notwithstanding section 3.19, any site plan or zoning by-law amendment application received between January 1, 2017 and December 31, 2019, shall be treated as if it was applied for on January 1, 2020, subject to building permit issuance being no later than January 1, 2023.

3.21 Despite sections 3.16 to 3.20, and in accordance with section 27 of the Act, the Township from time to time, and at any time, may enter into agreements providing for all or any part of a development charge to be paid before or after it would otherwise be payable.

4. PAYMENT BY SERVICES

4.1 The Chief Building Official or his or her designate shall withhold the issuance of a building permit in relation to a building on land to which the development charge applies unless the development charge has been paid.

4.2 Notwithstanding section 4.1, in the case of installment payments for development charges related to rental housing, non-profit housing or institutional development, the Chief Building Official or his or her designate shall withhold the issuance of an occupancy permit in relation to a building on land to which the development charge applies unless the first installment of the development charge has been paid.

4.3 Notwithstanding section 4.1 or 4.2, the Township may enter into an agreement under section 27 of the Act, in a form and having content satisfactory to the Township's Treasurer, with any person who is required to pay a development charge providing for all or any part of the development charge to be paid before or after it would otherwise be payable.

5. INDEXING

5.1 Development charges imposed pursuant to this By-law may be adjusted annually, without amendment to this By-law, commencing on January 1, 2023 and annually thereafter, in accordance with the Statistics Canada Quarterly, *Construction Price Statistics*, catalogue number 62-007

6. SCHEDULES

6.1 The following schedules shall form part of this By-law:

Schedule A	-	Components of Services Designated in section 2.1
Schedule B	-	Residential and Non-Residential Development Charges Effective April 1, 2022 – March 31, 2027
Schedule C-1	-	Map of Built Boundary – Arthur
Schedule C-2	-	Map of Built Boundary – Mount Forest
Schedule D-1	-	Map of Central Intensification Corridor – Arthur
Schedule D-2	-	Map of Central Intensification Corridor – Mount Forest

7. CONFLICTS

7.1 Where the Township and an owner or former owner have entered into an agreement with respect to land within the area to which this By-law applies, and a conflict exists between the provisions of this By-law and such agreement, the provisions of the agreement shall prevail to the extent that there is a conflict.

7.2 Notwithstanding section 7.1, where a development which is the subject of an agreement to which section 7.1 applies, is subsequently the subject of one or more of the actions described in subsection 3.4(a), an additional development charge in respect of the development permitted by the action shall be calculated, payable and collected in accordance with the provisions of this By-law if the development

has the effect of increasing the need for services, unless such agreement provides otherwise.

8. SEVERABILITY

8.1 If, for any reason, any provision of this By-law is held to be invalid, it is hereby declared to be the intention of Council that all the remainder of this By-law shall continue in full force and effect until repealed, re-enacted, amended or modified.

9. DATE BY-LAW IN FORCE

9.1 This By-law shall come into effect at 12:01 AM on April 1, 2022.

10. DATE BY-LAW EXPIRES

10.1 This By-law will expire at midnight on March 31, 2027 unless it is repealed by Council at an earlier date.

11. EXISTING BY-LAW REPEALED

11.1 By-law Number 059-18 and any amending by-laws are hereby repealed as of the date and time of this By-law coming into effect.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS XX DAY OF FEBRUARY, 2022.

ANDY LENNOX
MAYOR

KAREN WALLACE
CLERK

SCHEDULE "A" TO BY-LAW NUMBER XX-22

COMPONENTS OF SERVICES DESIGNATED IN SUBSECTION 2.1

Water
- Treatment, Storage and Distribution

Wastewater
- Treatment and Collection

Roads and Related
- Roads, Bridges, Culverts, Sidewalks and Streetlights
- Vehicles and Equipment
- Facilities
- Stormwater Study (Drainage)

Fire Protection
- Fire Facilities
- Fire Vehicles
- Fire Equipment

By-Law Enforcement
- Vehicles and Equipment

Recreation
- Recreation Facilities

Parks
- Parkland Development,
- Amenities
- Trails
- Vehicles and Equipment

Administration
- Growth Related Studies

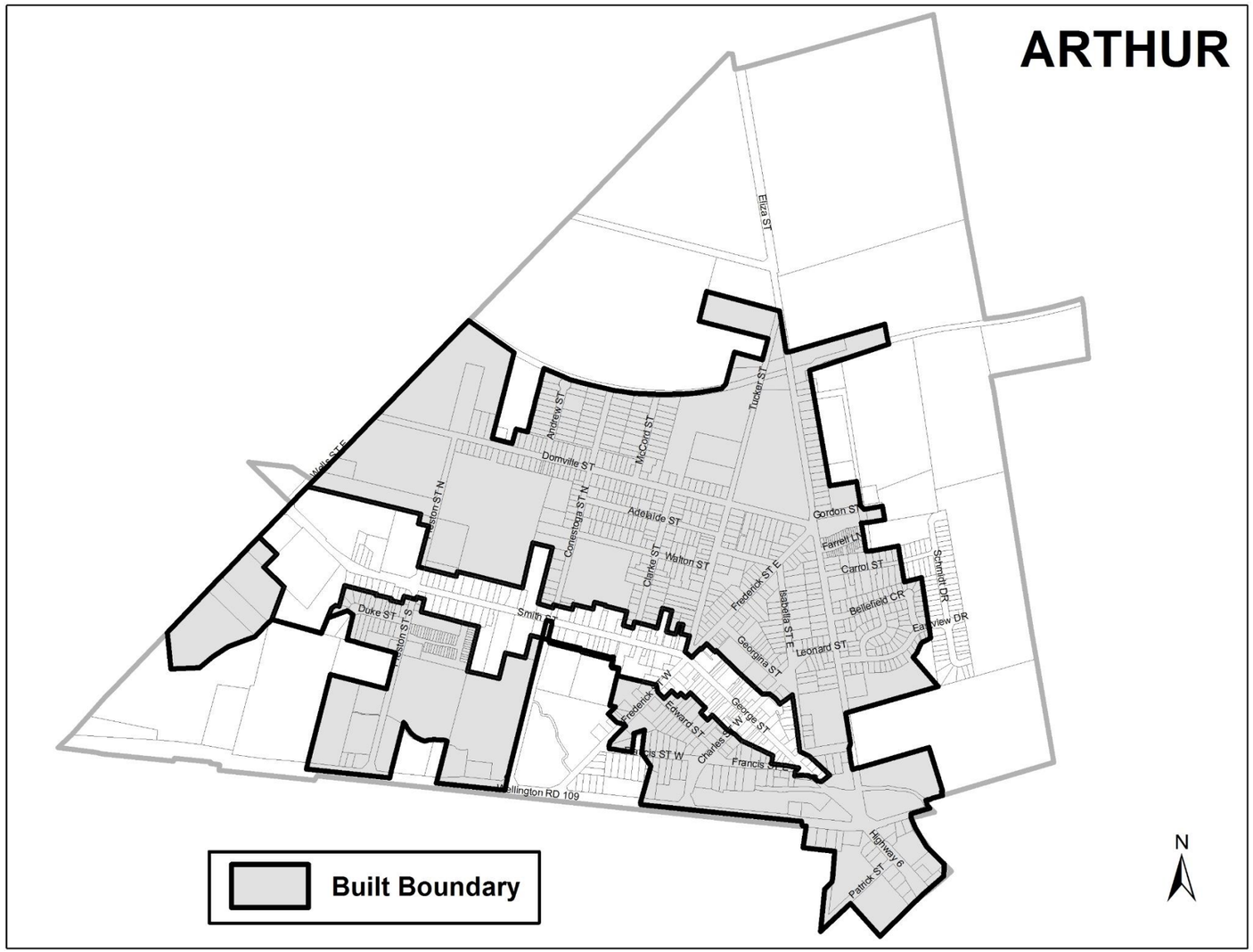
Schedule B

Service	RESIDENTIAL			
	Single/Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments-Bachelor and 1 bedroom	Other Multiples
Municipal Wide Services				
Administration - Studies	$ 87.77	$ 56.96	$ 41.55	$ 69.34
Parks Services	$ 630.11	$ 408.88	$ 298.26	$ 497.76
Recreation Services	$ 1,557.31	$ 1,010.54	$ 737.16	$ 1,230.23
By-Law Enforcement	$ 1.35	$ 0.88	$ 0.64	$ 1.07
Fire Protection Services	$ 86.81	$ 56.33	$ 41.09	$ 68.58
Roads and Related	$ 2,277.58	$ 1,477.93	$ 1,078.10	$ 1,799.21
Total Municipal Wide Services	**$ 4,640.93**	**$ 3,011.51**	**$ 2,196.80**	**$ 3,666.19**
Urban Services				
Wastewater Services	$ 11,174.93	$ 7,251.44	$ 5,289.70	$ 8,827.85
Water Services	$ 3,610.15	$ 2,342.63	$ 1,708.88	$ 2,851.90
Total Urban Services	**$ 14,785.08**	**$ 9,594.08**	**$ 6,998.58**	**$ 11,679.75**
GRAND TOTAL RURAL AREA	$ 4,640.93	$ 3,011.51	$ 2,196.80	$ 3,666.19
GRAND TOTAL URBAN AREA	**$ 19,426.01**	**$ 12,605.59**	**$ 9,195.38**	**$ 15,345.94**

Service	NON-RESIDENTIAL			
	Commercial/ Institutional (per ft^2 of Gross Floor Area)	Industrial		
		Industrial (per ft^2 of Gross Floor Area)	Warehouse (per ft^2 of Gross Floor Area)	Wind Turbine
Municipal Wide Services				
Administration - Studies	$ 0.03	$ 0.02	$ 0.01	$ 87.77
Parks Services	$ 0.03	$ 0.02	$ 0.01	$ 630.11
Recreation Services	$ 0.08	$ 0.04	$ 0.02	$ 1,557.31
By-Law Enforcement	$ 0.00	$ 0.00	$ 0.00	$ 1.35
Fire Protection Services	$ 0.03	$ 0.02	$ 0.01	$ 86.81
Roads and Related	$ 1.11	$ 0.55	$ 0.28	$ 2,277.58
Total Municipal Wide Services	**$ 1.29**	**$ 0.64**	**$ 0.32**	**$ 4,640.93**
Urban Services				
Wastewater Services	$ 4.37	$ 2.19	$ 1.09	$ -
Water Services	$ 1.41	$ 0.71	$ 0.35	$ -
Total Urban Services	**$ 5.78**	**$ 2.89**	**$ 1.45**	**$ -**
GRAND TOTAL RURAL AREA	$ 1.29	$ 0.64	$ 0.32	$ 4,640.93
GRAND TOTAL URBAN AREA	**$ 7.07**	**$ 3.54**	**$ 1.77**	**$ 4,640.93**

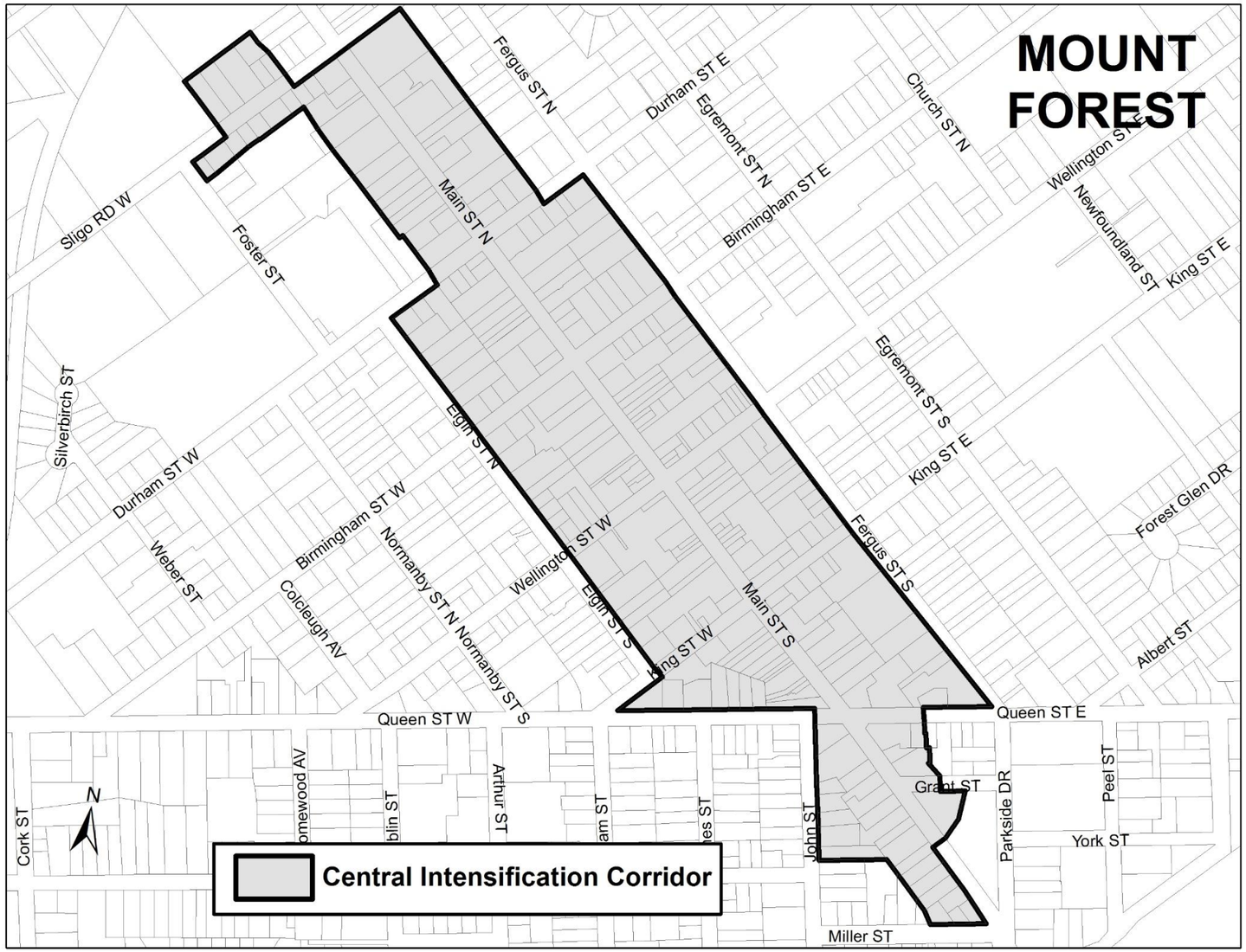
SCHEDULE "C-1" TO BY-LAW NUMBER XX-22

MAP OF BUILT BOUNDARY – ARTHUR



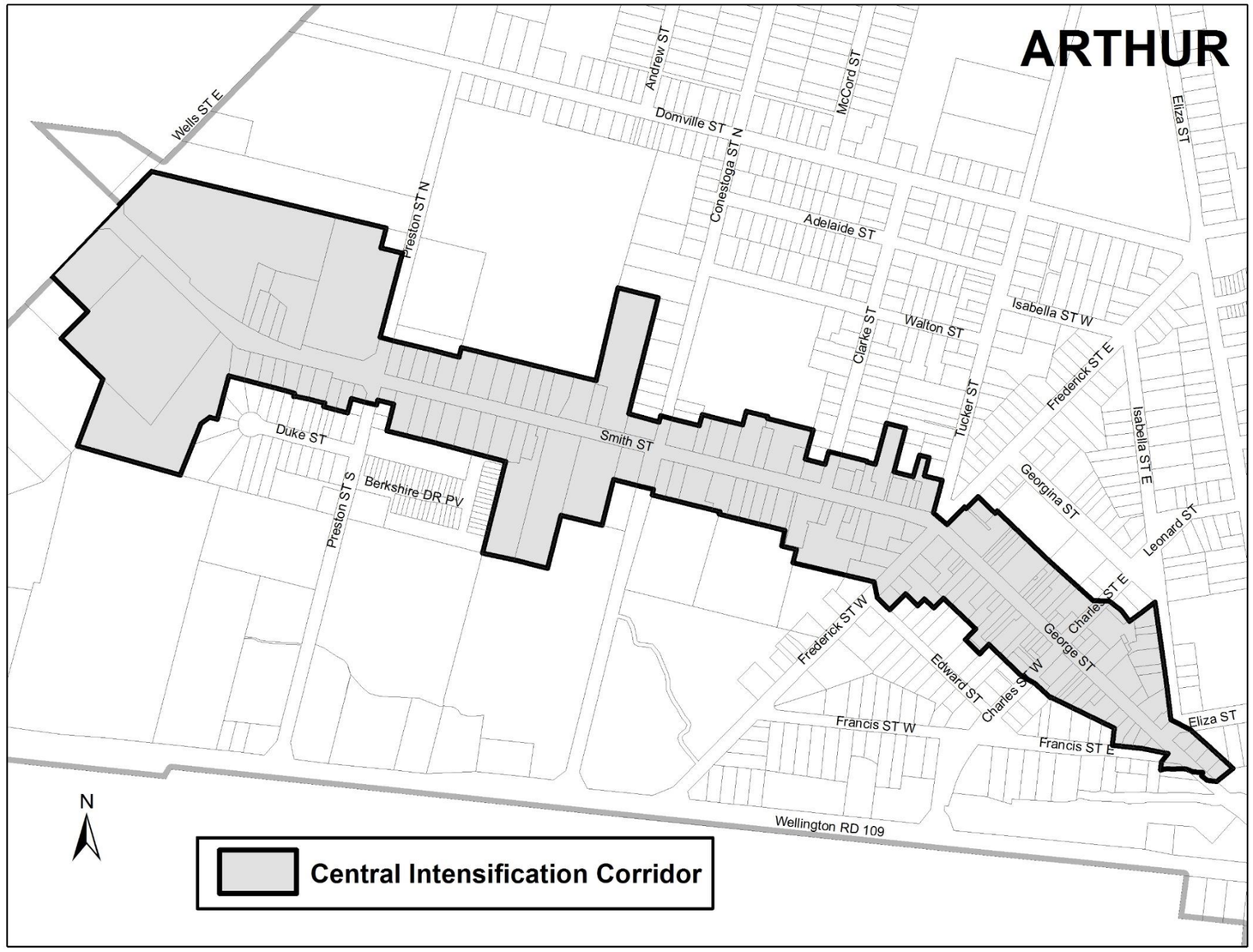
SCHEDULE "C-2" TO BY-LAW NUMBER XX-22

MAP OF BUILT BOUNDARY - MOUNT FOREST



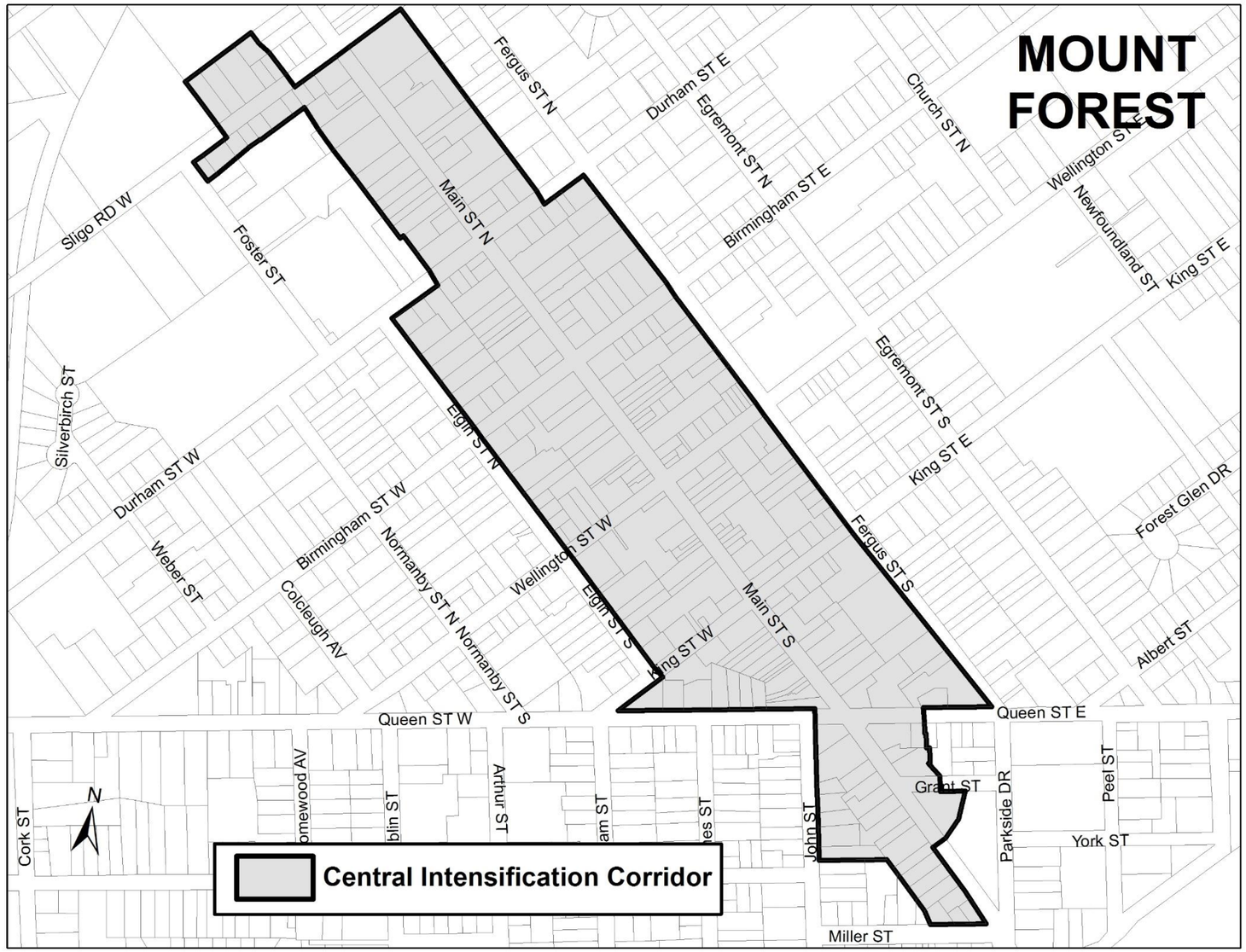
SCHEDULE "D-1" TO BY-LAW NUMBER XX-22

MAP OF CENTRAL INTENSIFICATION CORRIDOR - ARTHUR



SCHEDULE "D-2" TO BY-LAW NUMBER XX-22

MAP OF CENTRAL INTENSIFICATION CORRIDOR - MOUNT FOREST



Appendix H

REPORT ON STAKEHOLDER CONSULTATION

DFA Infrastructure International Inc.
33 Raymond Street St. Catharines Ontario Canada L2R 2T3
Telephone: (905) 938 -0965 Fax: (905) 937-6568

February 11, 2022

Adam McNabb
Director of Finance & Treasury
Township of Wellington-North
7490 Sideroad 7 W, PO Box 125,
Kenilworth, Ontario, N0G 2E0

Dear Adam,

Re: **Township of Wellington-North**
2021 Development Charges (DC) Background Study & By-law
Report on Stakeholder Consultation

We have prepared for inclusion in the Final Development Charges Background Study a Summary Report on stakeholder consultation that occurred at the Stakeholder meeting held November 30th 2021 and the Statutory Public Meeting that was held on February 10th 2022.

Please do not hesitate to call if you have any questions.

Respectfully Submitted by,

DFA Infrastructure International Inc.

Derek Ali, MBA, P.Eng.
President

Table of Contents

1 Introduction

The Township of Wellington-North (Township) is a lower tier municipality within Wellington County with a population of approximately 12,000 residents. It provides a wide range of services to its residents and businesses for which development charges are currently collected. In Ontario the governing legislation for imposing development charges is the Development Charges Act 1997 (DCA), and Ontario Regulation 82/98.

The DCA Section 10(4) requires that the Draft Development Charges Study and the Draft By-Law be made available to the public for review at least 60 days in advance of the by-law taking effect. This step in the process provides the opportunity for interested parties to make representations on the Draft Development Charges Study and proposed by-law prior to finalization and implementation.

The legislation prescribes that Council conduct at least one public meeting with at least 20 days' notice of the meeting. In accordance with O. Reg. 82/98, Section 9 (1) notice may be by publication in a local newspaper, which in the Clerk's opinion, has with sufficient general circulation across the Township or by personal service, mail or fax to every landowner. A copy of the notice of Public Meeting is attached as Appendix A.

2 Meetings

On November 30th 2021 a stakeholder workshop was held with Council and members of the development community to review the first draft of the DC Background Study and to solicit input. The statutory public meeting as noted above was held on February 10th 2022 to receive comments.

Representative of DFA Infrastructure International Inc. (DFA) gave a presentation at each of the public meetings in respect to the draft Development Charges Background Study and proposed By-law. The presentations focused on the requirements of the Development Charges Act when passing a new development charges by-law, the information and assumptions used in calculation of the proposed development charges, and a comparison of the proposed development charges to other municipalities.

3 Attendance

Due to Covid-19 both the Stakeholder Workshop and Statutory Public Meeting were held remotely via Zoom. Members of Council and Township staff were in attendance at both the Stakeholder Workshop and the Public Meeting. There were several members of the development community that attended the Stakeholder Workshop, and only one member of the public attending the Public Meeting.

4 Discussion

Most of the discussion at meetings were focused on the incentives offered in the draft DC by-law. Reductions to development charges are provided for development occurring within the Township's Built Boundary and Central Intensification Corridors. There are further reductions of development charges for the creation of purpose-built rental housing units. Questions on how the incentives work were received. Representatives of DFA and Township staff were able to answer all the questions raised at the public meetings.

All comments received were considered, with the final study and by-law being updated accordingly.

Appendix A

Notice of Public Meeting

WELLINGTON NORTH
SEMPER PORRO

NOTICE OF PUBLIC MEETING – DEVELOPMENT CHARGES

On Thursday February 10, 2022, the Council of the Township of Wellington North will hold a public meeting, pursuant to Section 12 of the Development Charges Act, 1997, to present and obtain public input on the draft Development Charges Background Study proposed Development Charges By-law.

It is proposed that enactment of a Development Charges By-Law will occur at a subsequent meeting of Council (to be determined). Development Charges are levied against new development, and are the primary source of funding for growth-related capital expenditures. Capital services include water, wastewater, roads and related, fire protection, recreation, parks, by-law enforcement, and administration.

All interested parties are invited to attend the Public Meeting and any person who attends the meeting may make representation relating to the draft Development Charges Background Study and the proposed Development Charges By-Law. The meeting is to be held:

Thursday February 10, 2022 2:00 p.m.
Virtual Meeting – Link https://us02web.zoom.us/j/87526589767
OR join by phone: 855 703 8985 (Toll Free) or 1 647 374 4685 (long distance charges may apply)
Webinar ID: 875 2658 9767

7490 Sideroad 7 W, Box 125, Kenilworth, ON N0G 2E0

Copies of the draft Development Charges Background Study and the proposed Development Charges By-Law are available upon request at the Clerk's Office at 7490 Sideroad 7 W, Kenilworth, ON N0G 2E0 and on the municipality's website at www.wellington-north.com (posted December 2, 2021).

Interested persons may express their comments at the Public Meeting or in writing, addressed to the Director of Legislative Services/Clerk, by email at kwallace@wellington-north.com or at the address listed above on or before February 3, 2022.

Specific development charges inquiries should be directed to Adam McNabb, Director of Finance & Treasurer at 519 848-3620 ext. 4232 or by email amcnabb@wellington-north.com .

Dated at the Township of Wellington North this 6th day of December 2021.

Appendix B

B1 - Summary of Developable Land

Imminent Developments - Stage 1 (2025 - 2031)

GMAP ID	Figure ID	Internal Job #	Development Name	Area (ha)	ERUs	Equivalent Poulation	ERU Determination Method	Unit Types & Notes
WN-50	R1-1	A5524	Forest View Subdvision *(Allocated)*	2.4	50	130	Draft Plan	Low (18), Meduim (8) & High (24) Density Residential
WN-52	R1-2	A5540	Harvestview	4.0	62	161	March 2025 Detailed Design	Low (50), Meduim (12)
WN-135	R1-3	A5531	VED Homes *(Allocated)*	1.0	34	88	July 2024 Detailed Design	Meduim Density Residential
WN-79/WN-97	R1-4	A5523	Seawaves Development *(Allocated)*	1.2	37	96	Draft Plan/RCC	Meduim Density Residential
N/A	R1-5	N/A	Eastridge Phase 5	3.5	55	143	Draft Plan	Low (18) & (37) Meduim Density
N/A	N/A		Golden Valley	N/A	28	74	Avg. Historical Annual Allocation, Equiv. Pop based on 2.63 PPU.	ERUs
N/A	N/A	N/A	Intensification Residential Units	N/A	48	125	20% Residential Intensification Allowance	ERUs
Stage 1 Total:					**314**	**818**		
Cumulative Total					**1,579**	**4,107**		

Developments to be Serviced by Phase 2 WWTP - Stage 2 (2031- 2041)

GMAP ID	Figure ID	Internal Job #	Development Name	Area (ha)	ERUs	Equivalent Population	ERU Determination Method	Unit Types & Notes
WN-123/WN-124	R2-1	A5547	168 George St Development	0.3	16	42	November 2024 Design	High Density Residential
N/A	R2-2		320 Smith St Development	1.1	15	40	May 2025 Design	Meduim Density Residential
FD-1	R2-3	A5527	211 Eliza St Development	12.7	439	1,164	Draft Plan & Commercial Equivalent based on $28m^3$/ha/day.	Future Development - Commercial/Residential (Resdiential 9.86 ha, Commerical 2.8 ha)
WN-133	R2-4	A5544	152 Fredrick St Apartment	0.9	55	146	October 2023 Design	High (55) Density Residential
N/A	IL2-1		Development Southeast of Wells St & Macaulay St	10.3	311	823	Industrial Equivalent based on $28m^3$/ha/day.	Industrial
N/A	N/A	N/A	Intensification Residential Units	N/A	167	439	20% Residential Intensification Allowance	ERUs
Stage 2 Total:					**1,003**	**2,653**		
Cumulative Total					**2,582**	**6,761**		

Developments to be Serviced Beyond Phase II WWTP - Stage 3 (2041 - 2051)

GMAP ID	Figure ID	Internal Job #	Development Name	Area (ha)	ERUs	Equivalent Population	ERU Determination Method	Unit Types & Notes
WN-96	R3-1	A5552	178 Frederick St West Lot Development	1.9	121	316	As proposed July 2023 & Commercial Equivalent based on $28m^3$/ha/day.	70 Meduim-Density Residential + Commercial (1.65ha). Commercial Equivalent based on $28m^3$/ha/day.
WN-55	R3-2	N/A	Draper/Anderson St Development	2.8	55	143	As per the GMAP	Low (30) & High (25) Density Residential
N/A	R3-3	A5542	335 & 341 Smith St Development	0.9	30	78	As proposed in 2021	Meduim Density Residential
N/A	IL3-1	A5565	Development Southwest of Eliza St St & Macaulay St	14.1	432	1,128	Industrial Equivalent based on $28m^3$/ha/day.	Industrial - Equivalent based on $28m^3$/ha/day.
N/A	N/A	N/A	Intensification Residential Units	N/A	128	333	20% Residential Intensification Allowance	ERUs
Stage 3 Total:					**766**	**1,999**		
Cumulative Total					**3,348**	**8,760**		

Future Development Serviced Beyond Phase II WWTP - Stage 4 (2051+)

GMAP ID	Figure ID		Development Name	Area (ha)	Total Units	Equivalent Population	ERU Determination Method	Unit Types & Notes
FD-2	FD4-1	N/A	West of Charles St & WR109	1	12	32	Based on GMAP Density of 32 people per ha.	Future Development - Residential
FD-3	FD4-2	N/A	West of Charles St & WR109	3	37	96	Based on GMAP Density of 32 people per ha.	Future Development - Residential
FD-4	FD4-3	N/A	West of Charles St & WR109	5	153	400	Commercial Equivalent based on $28m^3$/ha/day.	Future Development - Commercial
N/A	UFD4-1	A5557	Development above Macaulay St	17.3	264	689	Based on May 2025 Plans	Future Development - Residential (150 Townhouses, 56 Semi Detached, 58 Single)
N/A	UFD4-2	N/A	Development East of Eliza St & Tucker St North of Macaulay St	38.4	543	1,417	Based on May 2025 Plans	Future Development - Residential (77 Townhouses, 50 Semi Detached, 416 Single)
N/A	UFD4-3	N/A	Development East of Eliza St & Tucker St South of Macaulay St	15.9	195	509	Based on GMAP Density of 32 people per ha.	Unkown
N/A	N/A	N/A	Intensification Residential Units	N/A	241	628	20% Residential Intensification Allowance	20% Residential Intensification Allowance
Stage 4 Total:					**1,445**	**3,770**		
Cumulative Total					**4,793**	**12,530**		

Appendix C

TABLE 1.0
TOWNSHIP OF WELLINGTON NORTH
ARTHUR
WATER SUPPLY 2025 RESERVE CAPACITY

	DESCRIPTION	2024
1	Firm Capacity[1]	2,255
2	Three-Year Max Day Demand (m^3/d)[2]	1,514
3	Three-Year Average Day Demand (m^3/d)[3]	1,006
4	Reserve Capacity (m^3/d) (1) - (2)	741
5	Three-Year Max/Average Day Peak Factor (2) ÷ (3)	1.50
6	Three-Year Average Day Residential Demand (m^3/d)[4]	582
7	Peaked Max Day Residential Flow (m^3/d) (5) x (6)	876
8	Occupied Serviced Households[5]	1,265
9	Persons Per Existing Residential Unit **(2021 Census Data)**	2.60
10	Population Served (8) x (9)	3,289
11	Maximum Residential Day Demand Per Capita (m^3/d) (7) ÷ (10)	0.266
12	Additional Population that can be Served (4) ÷ (11)	2,783
13	Person Per Equivalent Residential Unit (2024 Growth Management Action Plan - 2026 Target)	2.63
14	Additional Equivalent Residential Units that can be served. (12) ÷ (13)	1,058
15	Committed Equivalent Residential Units (Table 3)	168
16	**Uncommitted Reserve Capacity Equivalent Residential Units (14) - (15)**	**890**

[1] Based on production for Well 8A/8B only (2,255m^3/day each), assumes Well 7A (1,961m^3/d) is off-line.

[2] Max day demand is the average of the maximum day demand of 2022, 2023 (adjusted) and 2024 (adjusted) (1,558m^3/d , 1,535m^3/d and 1,448m^3/d* respectively). **May 28-31 omitted due to water tower maintenance.*

[3] Average day demand is the average daily demand from 2022, 2023 and 2024 (989m^3/d, 1,038m^3/d and 990m^3/d respectively)

[4] Average residential demand is the average daily demand with the ICI users discounted from 2022, 2023 and 2024 (580m^3/day , 588m^3/day and 579m^3/day respectively)

[5] 1,229 (2023) + 36 additional units occupied in 2024.

Note: The values presented have been rounded.

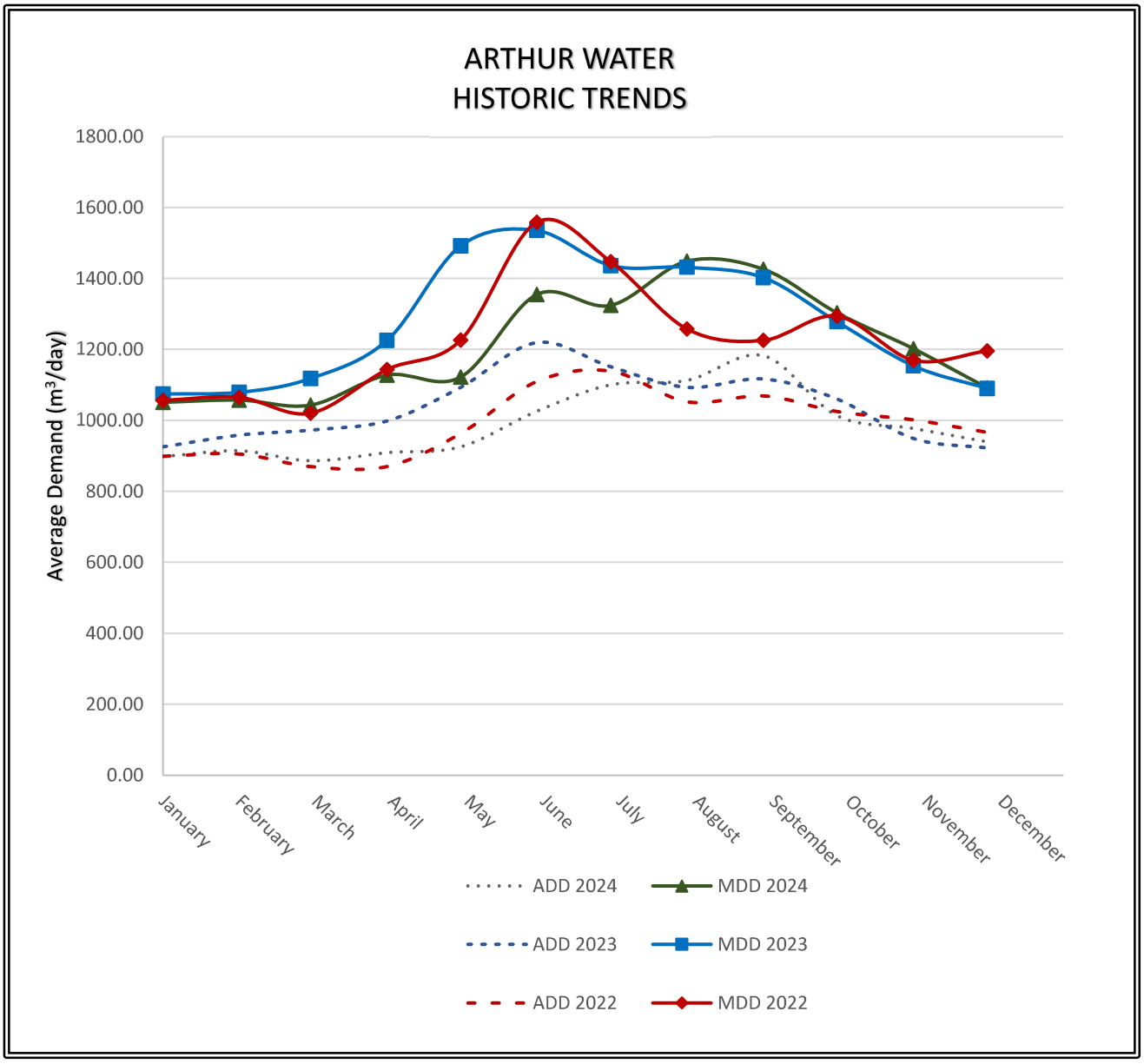

ARTHUR WATER
HISTORIC TRENDS
Average Demand (m³/day)
1800.00
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
January
February
March
April
May
June
July
August
September
October
November
December
ADD 2024
MDD 2024
ADD 2023
MDD 2023
ADD 2022
MDD 2022

TABLE 1.1
TOWNSHIP OF WELLINGTON NORTH
ARTHUR
WATER SYSTEM 2025 STORAGE ASSESSMENT

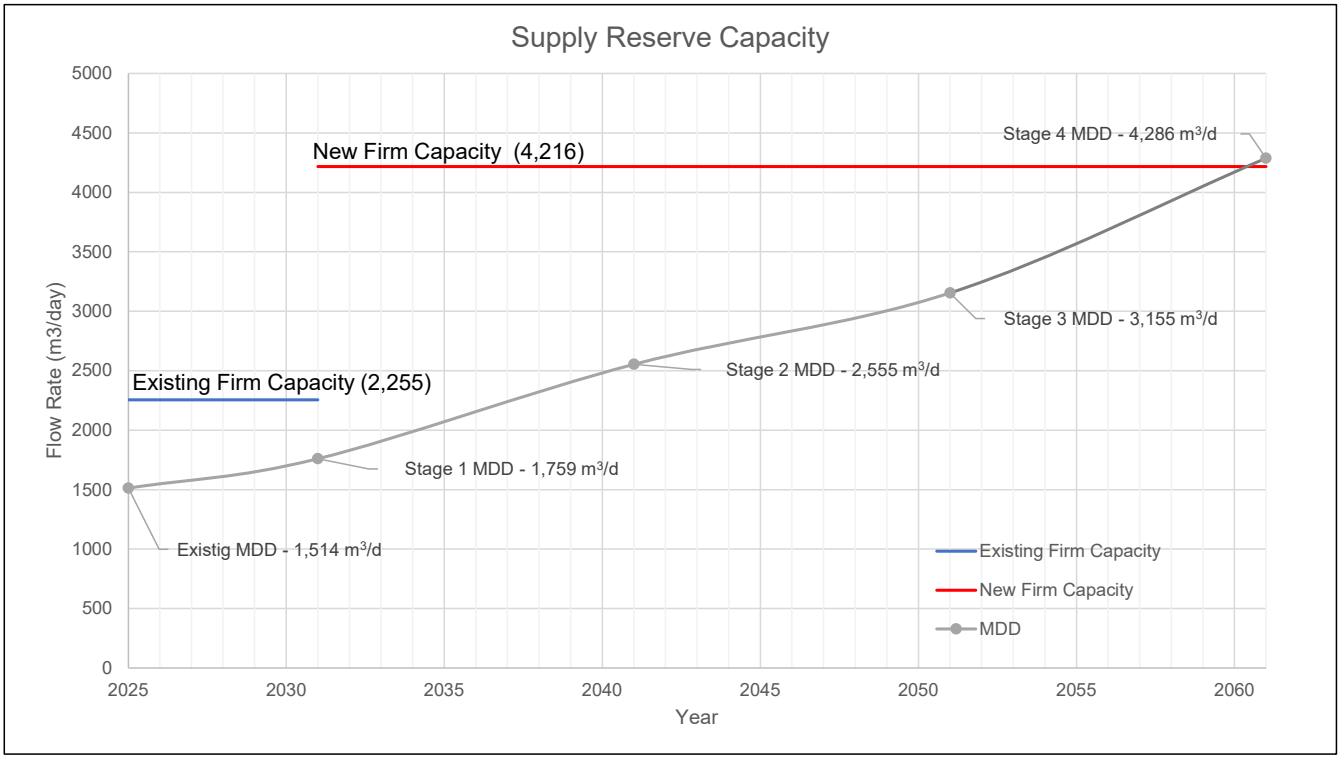
	DESCRIPTION	2024
1	Existing System Storage (m^3)[1]	1,137
2	Three-Year Max Day Demand (m^3/d) (Table 1)	1,514
3	Storage Required (m^3) (as per MECP Guidelines)	1,124
4	**Existing Surplus Storage Available (m^3) (1) - (3)**	**13**
5	Committed Equivalent Residential Units (Table 3)	168
6	Storage Required to Service Committed Developments (m^3)	1,191
7	**Additional Storage Available (m^3) (1) - (6)**	**-54**

[1] Existing multi-leg tower is nearing the end of its expected service life. Therefore, its volume (227m^3) has not been included in available storage assessment.

Note: The values presented have been rounded.

C2 - Water Supply Reserve Capacity

TOWNSHIP OF WELLINGTON NORTH ARTHUR WATER SUPPLY RESERVE CAPACITY						
Planning Period (Stages)	**Population**	**MDD (m^3/day)**	**Existing Reserve Capacity (2,255m^3)**		**New Reserve Capacity with Addition of New Well 1 (4,216m^3)**	
			m^3	ERU	m^3	ERU
Exsiting	3,289	1,514	741	1,070		
Stage 1 (2025 - 2031)	4,107	1,759	496	636		
Stage 2 (2031 - 2041)	6,761	2,555	-300	-378	1,661	2,088
Stage 3 (2041 - 2051)	8,760	3,155			1,061	1,356
Stage 4 (2051+)	12,530	4,286			-70	-90

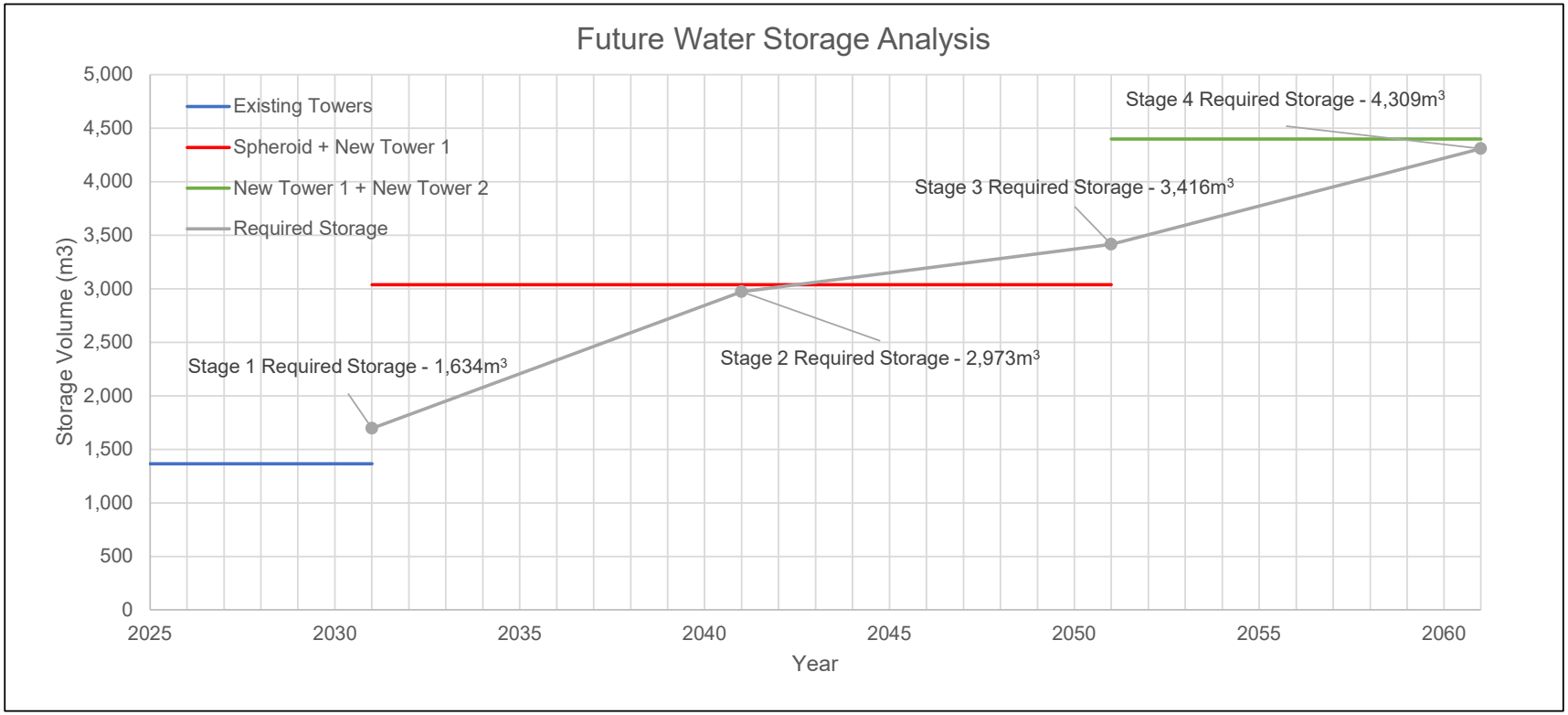


C3 - Water Storage Assessment

TOWNSHIP OF WELLINGTON NORTH ARTHUR WATER SYSTEM STORAGE ASSESSMENT							
Development Stages	**Population**	**Spheroid Tower (m^3)**	**New Tower 1 (m^3)**	**New Tower 2 (m^3)**	**Required Storage (m^3)**	**Storage Surplus (m^3)**	**Additional Storage Required (Imp. Gallon)**
Existing*	3,289	1,137	Not online	Not online	1,124	240	52,874
Stage 1 (2025-2031)*	4,107				1,696	-332	-73,109
Stage 2 (2031-2041)	6,761		1,900		2,973	64	13,974
Stage 3 (2041-2051)	8,760				3,416	-379	-83,353
Stage 4 (2051+)	12,530	Decommissioned	3,000	2,500	4,309	1,191	261,894

*Multi-leg included

Note: During Stage 3 New Tower 1 and the Spheroid Tower will operate at current operating level.

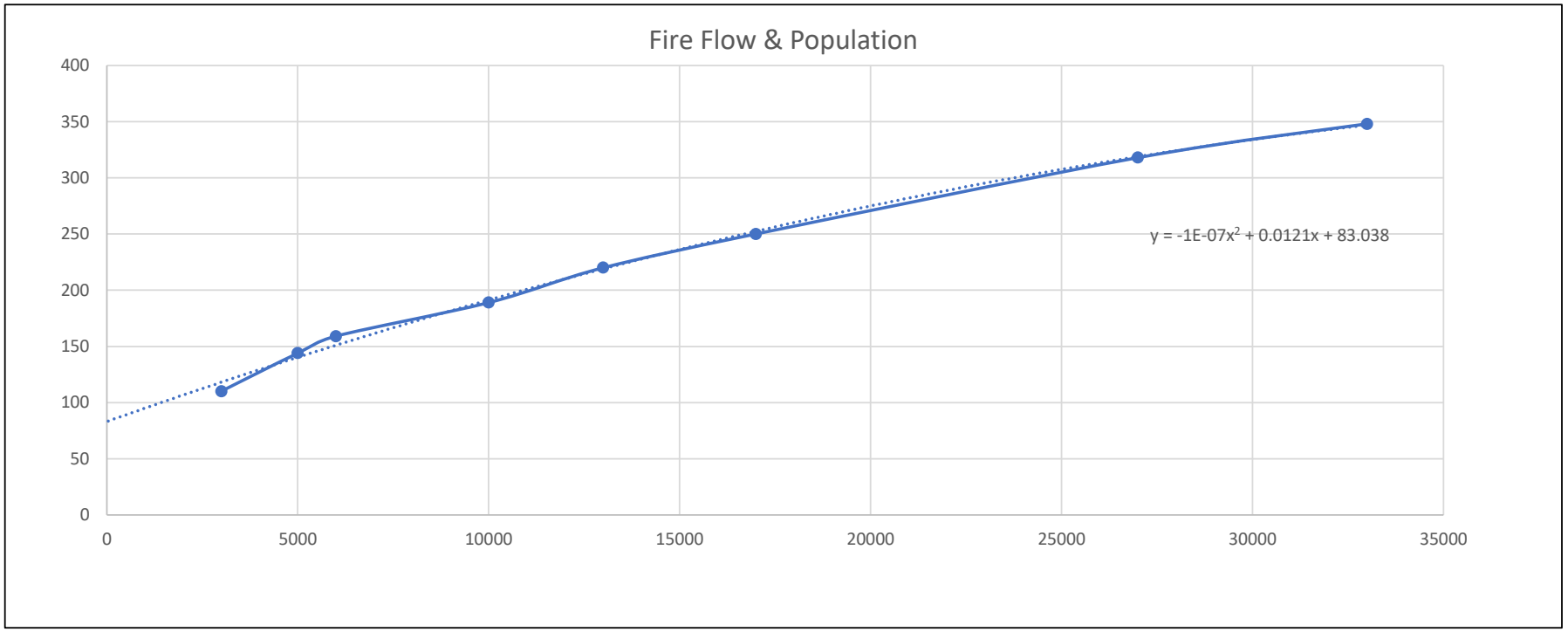


C4 - Fire Storage based on MECP Guidelines

TOWNSHIP OF WELLINGTON NORTH
ARTHUR
WATER SYSTEM
FIRE STORAGE REQUIREMENTS

Development Stages	Total Population	Duration (hours)	Fire Flow (L/s)	A (m^3)	Max. Day Demand (m^3)	B (m^3)	C (m^3)	Total (m3)
Existing*	3,289	2	114	823	1,514	378	300	1,124
Stage 1 (2025-2031)	4,107	2	127	917	1,759	440	339	1,696
Stage 2 (2031-2041)	6,761	3	161	1,740	2,555	639	595	2,973
Stage 3 (2041-2051)	8,760	3	180	1,944	3,155	789	683	3,416
Stage 4 (2051+)	12,530	3	220	2,376	4,286	1,072	862	4,309

Total Treated Water Storage Requirement (m^3) = A+B+C
*B Value omitted due to surplus supply (Note this is not to be done when designing new towers)



Appendix D

TABLE 2.0
TOWNSHIP OF WELLINGTON NORTH
ARTHUR
WASTEWATER 2025 RESERVE CAPACITY

	DESCRIPTION	2024
1	Design Capacity of Sewage Treatment Facility (m^3/d)	1,860
2	Average Day Flow[1] (m^3/d) (Average of 2022, 2023 and 2024 Average Day Flows)	1,341
3	Reserve Capacity (m^3/d) (1) - (2)	519
4	Expected New Development Per Capita Flow[2] (m^3/d)	0.350
5	Additional Population that can be Served (3) ÷ (4)	1,483
6	Person Per Equivalent Residential Unit (2024 Growth Management Action Plan - 2026 Target)	2.63
7	Estimated New Equivalent Residential Unit Flow Rate (4) x (6)	0.921
8	Additional New Equivalent Residential Units that can be Served (5) ÷ (6)	564
9	Committed Development Residential Units (Table 3)	168
10	**Uncommitted Reserve Capacity New Development Equivalent Residential Units (8) - (9)**	**396**

[1] Average of 2022, 2023 and 2024 (1,244m^3/day, 1,426 m^3/day and 1,352 m^3/day respectively).

[2] Adjusted per person flow rate based on MOE recommended values and supported by current water usage rates.

Note: The values presented have been rounded.

TABLE 3.0
TOWNSHIP OF WELLINGTON NORTH
ARTHUR
SUMMARY OF COMMITTED & BUILT DEVELOPMENTS 2024

COMMITTED DEVELOPMENTS	ALLOCATED	UNITS ALLOCATED IN 2024	REMAINING (END OF 2024)
Eastridge Landing - Phases 3 & 4 (Schmidt Dr.)	103	19	4
Forest View Estates (Domville St.)	50	0	50
Seawaves Homes (Gordon St.)	37	0	37
D. Martin Development (Conestoga Street)	17	0	1
Cachet Development (Preston Street)	197	3	1
VED Homes	35	0	35
INFILL LOTS[1]	20	14	20
SUB-TOTAL	**459**	**36**	**148**
GOLDEN VALLEY[2]	3		20
TOTAL COMMITTED UNITS			**168**

[1] 20 infill lots to be allocated each year.

[2] Golden Valley Farms Maximum Annual Average Day Flow was determined to be 163m^3/day. This is 18m^3/day below the allowable flow rate of 181m^3/day, which equates to 20 ERUs.

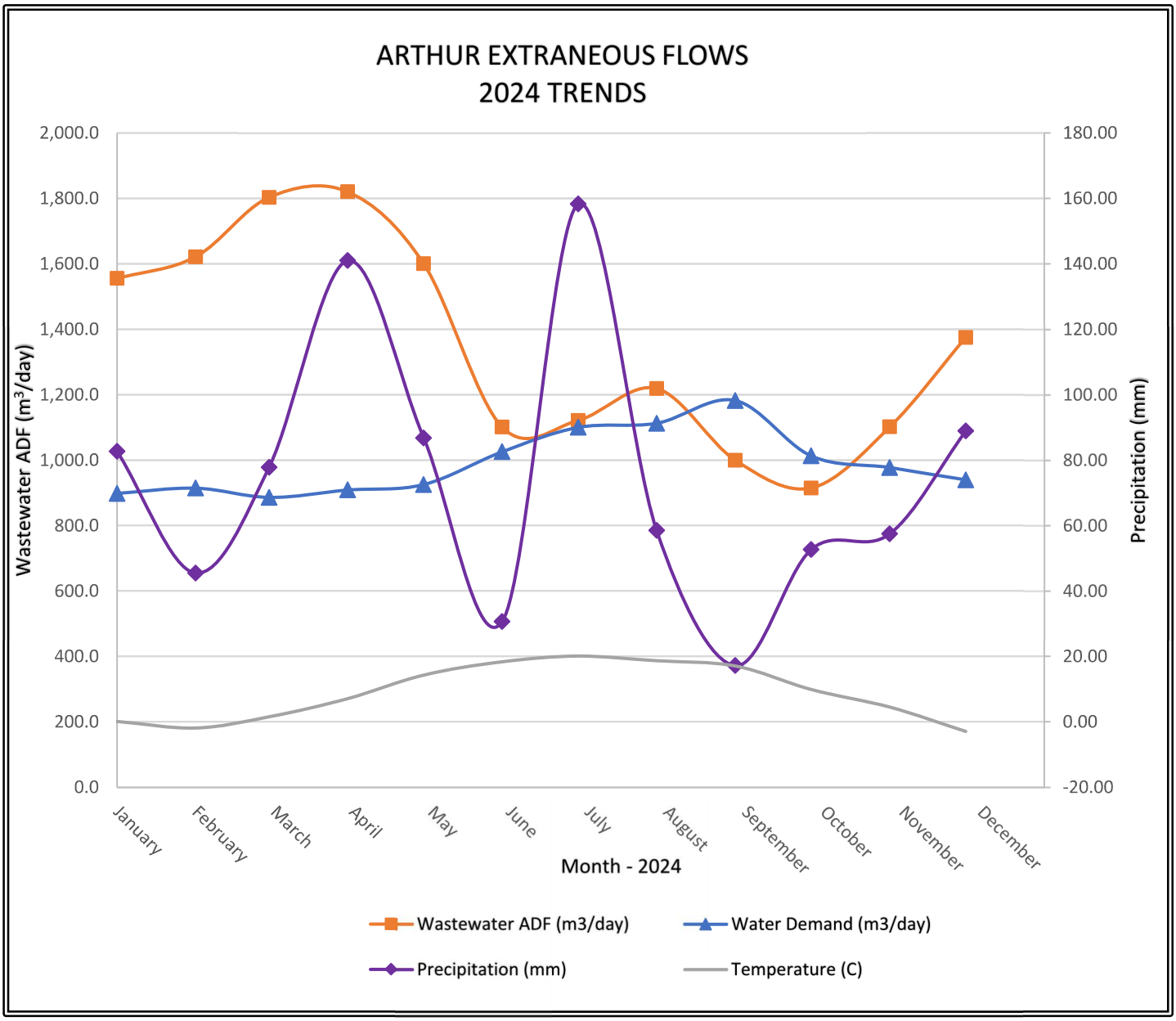
TABLE 4.0
TOWNSHIP OF WELLINGTON NORTH
ARTHUR
EXTRANEOUS FLOWS 2024

MONTH	PRECIPITATION[1] (mm)	AMBIENT TEMP. (C^o)	WASTEWATER ADF (m^3/day)	WATER ADD (m^3/day)	EXTRANEOUS FLOW (m^3/day)
January-2024	82.70	0.11	1,555.5	898.3	657.2
February-2024	45.50	-1.85	1,621.6	914.5	707.1
March-2024	77.80	1.55	1,803.5	886.0	917.6
April-2024	141.00	7.10	1,820.6	908.8	911.8
May-2024	86.80	14.30	1,600.3	925.3	675.0
June-2024	30.70	18.40	1,100.9	1,025.9	75.0
July-2024	158.30	20.10	1,121.6	1,100.4	21.2
August-2024	58.50	18.70	1,219.1	1,112.6	106.5
September-2024	17.20	17.10	1,000.0	1,182.3	0.0
October-2024	52.70	9.90	915.1	1,012.9	0.0
November-2024	57.50	4.50	1,101.7	977.2	124.5
December-2024	88.90	-2.90	1,375.3	939.9	435.5
AVERAGE	**897.4 (TOTAL)**	**8.92**	**1,353**	**990**	**385.9**
REASONABLE EXTRANEOUS FLOW BASED ON POPULATION - TABLE 1.0 (m^3/day)[2]					**197.3**
EXTRANEOUS FLOW OVER AND ABOVE REASONABLE AMOUNT(m^3/day)					**188.6**
EQUIVALENT RESIDENTIAL UNITS USED BY EXTRANEOUS FLOWS (ERU)[3]					**204.9**

[1] Environment Canada - Daily Data Report Mount Forest (2024).

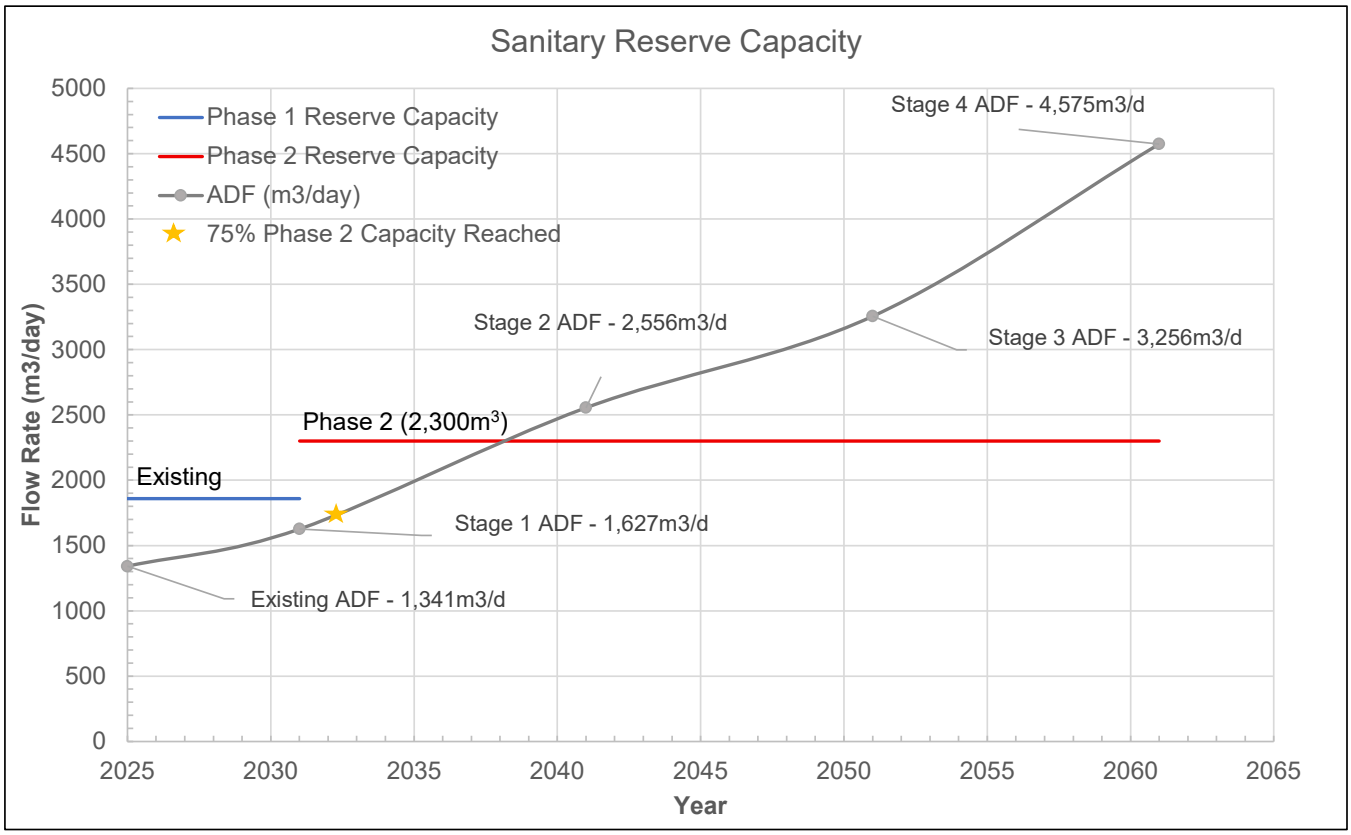
[2] Expected infiltration based 60 Litres per person per day allowable infiltration (modified historic MOE Standard).

[3] Based on Future Development Unit Sanitary Flow Rate (Table 2).


ARTHUR EXTRANEOUS FLOWS
2024 TRENDS
Wastewater ADF (m³/day)
Precipitation (mm)
2,000.0
1,800.0
1,600.0
1,400.0
1,200.0
1,000.0
800.0
600.0
400.0
200.0
0.0
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
-20.00
January
February
March
April
May
June
July
August
September
October
November
December
Month - 2024
Wastewater ADF (m3/day)
Water Demand (m3/day)
Precipitation (mm)
Temperature (C)

D2 - Sanitary Reserve Capacity

Stages	Population (Capita)	ERUs	ADF (m^3/day)	Phase 1 Reserve Capacity (1,860m^3)		Phase 2 Reserve Capacity (2,300m^3)	
				m^3	ERU	m^3	ERU
Existing	3,289	1,265	1,341	519	570		
Stage 1 (2025-2031)	4,107	1,579	1,627	233	256		
Stage 2 (2031-2041)	6,761	2,582	2,556			-256	-276
Stage 3 (2041-2051)	8,760	3,348	3,256			-956	-1,047
Stage 4 (2051+)	12,530	4,793	4,575			-2,275	-2,492



D3 - Sanitary Conveyance Capacity

Sewers of Concern (Sewers exceeding 100% capacity)							
Stages	**Street**	**Start MH**	**End MH**	**Diameter (mm)**	**Slope (%)**	**Percent Full (%)**	**Available Capacity (L/s)**
Stage 1 (2025-2031)	No Sewers of Concern						
Stage 2 (2031-2041)	Francis St	MH 179	MH 178	200	0.36	114.9	-2.93
		MH 178	MH 177	200	0.41	110.3	-2.16
		MH 177	MH 176	200	0.42	109.2	-1.95
Stage 3 (2041-2051)	Francis St	MH 179	MH 178	200	0.36	114.9	-2.93
		MH 178	MH 177	200	0.41	110.3	-2.16
	Frederick St	MH 78	MH 77	300	0.13	109.9	-3.44
	Francis St	MH 177	MH 176	200	0.42	109.2	-1.95
Stage 4 (2051+)	Frederick St	MH 78	MH 77	300	0.13	126.5	-9.22
	Francis St	MH 179	MH 178	200	0.52	113.9	-2.93
		MH 178	MH 177	200	0.42	110.3	-2.16
		MH 177	MH 176	200	0.42	109.2	-1.95

Appendix E

TRITON ENGINEERING SERVICES LIMITED
Consulting Engineers

Memorandum

DATE:	November 3, 2025
TO:	Tammy Stevenson
FROM:	Ray Kirtz/Taylor Kramp
RE:	Arthur Northwest Servicing Strategy. Roads & Servicing Review
FILE:	A5565A

1.0 Introduction

The Township of Wellington North (Township) has retained Triton Engineering Services Limited (Triton) to undertake this review of the roads and servicing general arrangement strategy options for the Arthur Northwest development area that is bound by the unopened Wells Street East ROW, Eliza Street and the Rail Trail as shown in Figure 1 below.

Figure 1

Arthur Northwest Study Area

TRITON ENGINEERING SERVICES LIMITED

Figure 1 – Study Area.

1.1 Reviewed Background Documents

- Water and Sanitary Systems Technical Study - Arthur prepared by Triton Engineering Services Limited, dated November 2020 and update October 2025.
- 2023 Road Needs Study prepared by Triton Engineering Services Limited, dated December 2023.
- Development Charges Study (2021)
- Development Concept 1, North Arthur Industrial Lands (2094940 Ontario Inc - Coffey), dated January 27, 2025, prepared by GSP Group.
- Tribute/Sorbara Arthur Holdings Concept, dated January 14, 2025, prepared by Biglieri Group

- Township of Wellington North Growth Management Action Plan (2024).

2.0 Evaluation Assumptions & Criteria

2.1 Developments

- The IL2-1 development is generally bound by the Rail Trail, and Wells East & Macaulay Street ROWs and the IL3-1 industrial lands to the east. This parcel is zoned industrial.

- The IL3-1 development is generally bounded by the Rail Trail, Macaulay Street, Tucker Street and the IL2-1 lands to the west. This parcel is currently zoned industrial.

- The UFD4-1 development is generally bounded by Wells Street East, Macaulay Street and Eliza Street. These lands are currently zoned future development.

2.2 Assumptions/Considerations

- A new well and potential water tower is expected to be constructed at the corner of Wells Street East and Macaulay Street. As such, a trunk watermain connection(s) will be required. Sanitary service is also required at the new well site.

- Sanitary servicing for these lands will be directed to the Preston trunk sewer through the outlet at the existing sanitary easement at Wells Street East, north of Domville Street. Sanitary extensions need to preserve sewer depth to ensure maximum future gravity service area, this entails achieving the most direct route to the Preston outlet as feasible.

- Sanitary servicing for Tribute and Cachet lands will be provided from the mid-point of Macaulay (Wells East – Eliza). Therefore, Macaulay sanitary sewer does not need to extend east of this point.

- A major generator of truck traffic on Wellington Road 14/Eliza Street is Ivan Armstrong Trucking transporting goods from Musashi Auto Parts (333 Domville Street, Arthur) to their warehouse (8035 2nd Line, Arthur) for distribution.

- The west side of Wells Street East is outside of the urban boundary with no current development potential.
- A significant consideration for these alternative routes is their functionality as a **truck bypass route**. The truck bypass route will redirect heavy vehicles down Wells Street East to access Smith Street (Highway 6), thereby reducing truck traffic through residential streets such as Eliza, Frederick, Domville and Preston. All roads being evaluated will have a posted speed limit of 50 km/hr.

- Road design to be in accordance with Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads (2017)*.

- Road cross sections (i.e., rural/urban) will not be confirmed as part of this review as this will be dependent development concept details. However, this is not considered critical to the evaluation of the servicing/roads options.

2.3 Costing

- Cost comparisons for roads and servicing for the various options will be based on linear benchmark costs assuming requirements are similar for each option.

- Road construction costs will be based on length of road required assuming all roads have similar sections.

- It has been noted that either traffic signals or a roundabout may be applicable at the Macaulay and Eliza Street intersection. Given that this feature is common to all options, it will not effect the relative costing comparison.

- Roads/servicing within the various developments are to be constructed at developers' expense unless there is a function beyond the needs of that development (i.e. oversizing servicing, increased road standard) to accommodate external developments.

2.4 Miscellaneous Considerations

- Ability to implement, is phasing of the strategy feasible and conducive to anticipated development priorities?

- Utilizes existing right-of-ways.

- Other issues that favor/detract the various options.

2.5 Scoring System Breakdown

A scoring system was created to quantitatively compare the various options. Although this system does not consider all aspects of these options, the main objectives/goals and impacts are included in the system. Categories within this scoring system are as follows:

2.5.1 Transportation:

- This will consider the options' ability to achieve the primary objectives including truck bypass and access/egress to industrial developments from arterial routes.

- Achieving transportation objectives is a significant goal of the strategy. Therefore, scoring for this category will be **0-6**, with 6 representing option that best satisfies transportation objectives.

2.5.2 Serviceability:

- This will consider the options' ability to satisfy servicing requirements to the study area primarily water and sanitary. Additional consideration will be given to servicing that can improve servicing for existing/potential development outside the study area and conformance with previously identified servicing strategy.

- Scoring for this category will be **0-3** for each of water and sanitary, with 3 representing the option that best satisfies servicing objectives.

2.5.3 Cost:

- This will consider the cost to implement various road/servicing strategies.

- Given the high-level nature of this study and unknowns, detailed cost estimates were not determined for each option. Rather a comparison of cost potential based on linear requirements was undertaken.

- Scoring for this category will be **0-3**, with 3 representing option with the least cost.

2.5.4 Miscellaneous:

- This will consider other issues not covered by the other categories, that the Township considers relevant to the various options being considered.

- There is not a formal score to this category, rather it will be considered, as applicable, under the other categories.

3.0 Options Description and Discussion

3.1 Transportation

Three alternative road alignments have been developed for the proposed future truck **routes** to provide access/egress/bypass functions for consideration. These are based on development concepts previously presented to the Township and are illustrated in Figure 2 and summarized below:

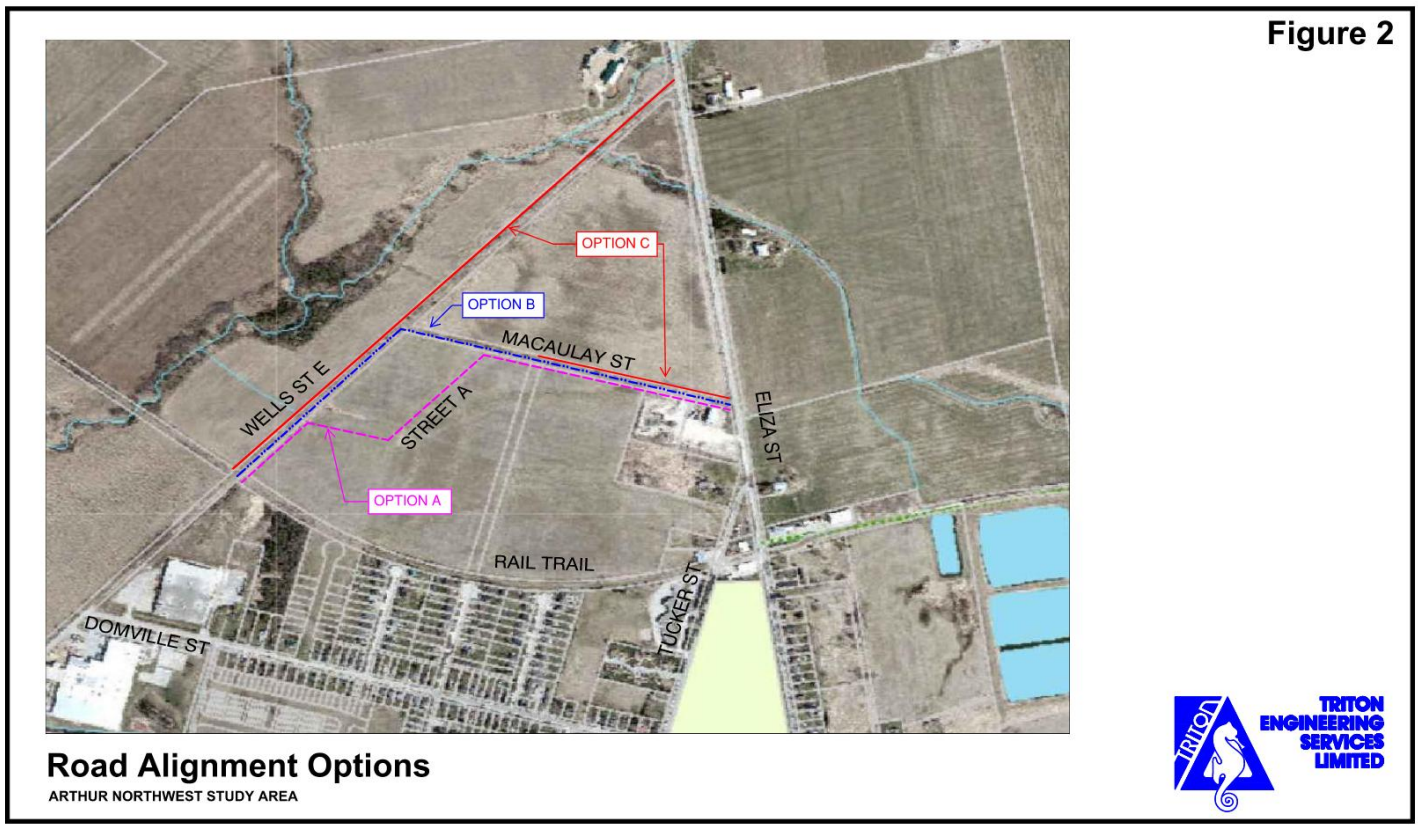


Figure 2 – Road alignment options.

3.1.1 Option A

- Option A would require a sharp bend/curve/turn at the proposed cul-de-sac of Street A in the IL2-1 industrial lands and at the intersection with Macaulay Street. For ideal traffic flow, these curves would conform to at least a 60km/h design speed (10km/h above posted speed) with a large radius and superelevation based on the 2017 TAC Guide. These radii would result in less-than-ideal lot shapes for the adjacent lands due to the curved frontages and limit the number and clearance between accesses for individual industrial lots due to reduced sightlines around the curves. The alternative is to construct intersections at these locations, but they would require stop control on both approaches, which would reduce traffic flow efficiency further.

- The intersection of Macaulay Street with Eliza Street would have poor approach angles which are a greater concern with the current 80km/h posted speed on Eliza Street. If a stop-controlled intersection is implemented at this intersection, the minor approach (Macaulay) should be re-aligned as close to 90° as feasible.

- Option A would require four intersections/curves:

    - Well Street East and Street A intersection
    - Street A and Street A at the end of the proposed cul-de-sac
    - Street A and Macaulay Street intersection/curve
    - Macaulay Street and Eliza Street intersection

  Trucks using this as a truck route to access Highway 6/Wellington Road 14 would need to make turning maneuvers at all four of the intersections.

- Option A would require the following roads to be constructed:

    - Wells Street East: Domville Street - Street A
    - Street A: Wells Street East - Macaulay Street
    - Macaulay Street: Street A - Eliza Street

- This option would **not** require the construction of Wells Street East between Street A and Eliza/WR14.

- Results in the least direct route from Wellington Road 14/Eliza to lower Wells Street East as there would be four intersections/sharp bends and a longer route.

Based on the above, Option A is given a score of 1 out of 6 within the category of Transportation.

3.1.2 Option B

- The intersection of Macaulay Street with Eliza Street has poor approach angles and are a greater concern with the current 80km/h posted speed on Eliza Street. If a stop-controlled intersection is implemented at this intersection, it should be reviewed if the minor approach can be re-aligned to 90°.

- Option B would require three intersections:
    - Wells Street East and Street A intersection
    - Wells Street East and Macaulay Street
    - Macaulay Street and Eliza Street

  Trucks using this as a truck route to access Highway 6/Wellington Road 14 would need to make turning maneuvers at two of the intersections.

- Option B would require the following roads to be constructed:

    - Wells Street East: Domville Street - Macaulay Street
    - Macaulay Street: Wells Street East - Eliza Street

Based on the above, Option B is given a score of 3 out of 6 within the category of Transportation.

3.1.3 Option C

- Option C would require three intersections:
    - Wells Street East and Street A intersection
    - Wells Street East and Macaulay Street
    - Wells Street East and Eliza Street

- Trucks using this as a truck route to access Highway 6/Wellington Road 14 would need to make turning maneuvers at only one of the intersections. This option would be the most direct/efficient route for truck route users.

- Option C would require the following roads to be constructed:

    - Wells Street East: Domville Street - Wellington Road 14
    - Macaulay Street: Mid-point Macaulay - Eliza Street

- The intersections of Macaulay Street with Eliza Street and Wells Street East with Eliza Street have poor approach angles and are a greater concern with the current 80km/h posted speed on Eliza Street. If a stop-controlled intersection is implemented at either of these intersections, it should be reviewed if the minor approach can be re-aligned to 90°.

- A roundabout or traffic lights at the Wells Street East and Wellington Road 14 intersection has some challenges:
    - May require property from the northwest and east sides.
    - Will require a fourth leg to accommodate an existing private entrance.
    - It's in close proximity to the road crossing culvert on Wellington Road 14 immediately north of the intersection and conflicts with the guiderail on the culvert approaches.
    - Despite the above, a roundabout would provide a "gateway feature" to provide traffic calming as motorists enter Arthur.

Based on the above, Option C is given a score of 6 out of 6 within the category of Transportation.

3.2 Servicing

3.2.1 Option A

Major servicing route would be north on Wells Street East from Domville Street to Street A within the IL2-1 industrial lands , Street A to Macaulay Street, Macaulay Street easterly to Eliza Street.

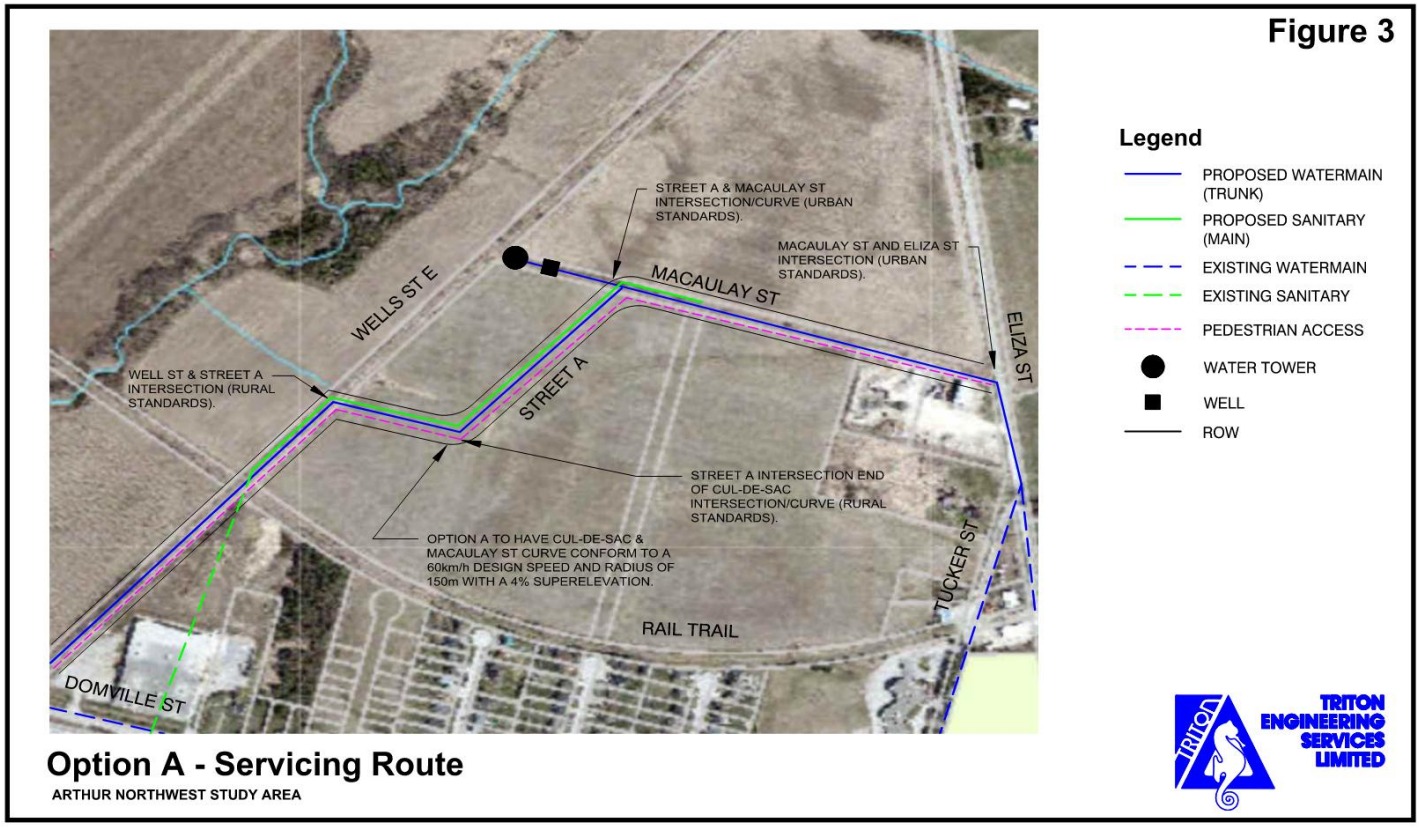


Figure 3 – Option A Servicing Route.

3.2.1.1 Water Serviceability

- Recommended routing of trunk watermain for this option includes along Wells Street East (Domville – Street A), Street A (Wells E – Macaulay), Macaulay (Street A – Eliza) and Eliza (Macaulay – Tucker).
- Trunk main would be extended to future Well/Tower site from Street A/Macaulay intersection.
- No watermain is required along Wells Street East past Street A since there is no development potential. However, consideration to be given to extending a main along Wells Street East from Street A to the potential Well/Tower site to provide a secondary feed.
- Utilizing Street A as a trunk route eliminates the need for duplication of local main on Street A. This reduces capital/O&M costs and reduces volume of standing water in the system.
- Street A is not currently a municipal ROW, therefore, this would need to be established as part of the IL2-1 development.

Based on the above, Option A is given a score of 2 out of 3 within the category of Water Serviceability.

3.2.1.2 Sanitary Serviceability

- Limits of sewer on Macaulay are unknown at this time; based on the Tribute concept only a small portion would be required to service their concept. Also, it is unlikely that development east of Eliza could be serviced back to Macaulay due to topography limitation. Given this, it is assumed that only sewer from Street A to Macaulay mid-point will be required.

- Recommended routing of sanitary sewer for this option includes along Wells Street East (Existing – Street A), Street A (Wells E – Macaulay), Macaulay (Street A – Macaulay mid-point).

- No sewer is required along Wells Street East north of Street A since there is no development potential.

- Utilizing Street A as a trunk route eliminates the need for duplication of local main on Street A. This reduces capital/O&M costs. However, it does mean the Street A sewer will need to be oversized.

- Street A is not currently a municipal ROW, therefore, this would need to be established as part of the IL2-1 development.

Based on the above, Option A is given a score of 2 out of 3 within the category of Sanitary Serviceability.

3.2.2 Option B / Option C

Although the transportation routes for Option B and Option C differ, the servicing strategies are the same. Major servicing route would be north on Wells Street East from Domville Street to Macaulay Street and Macaulay Street easterly to Eliza Street.

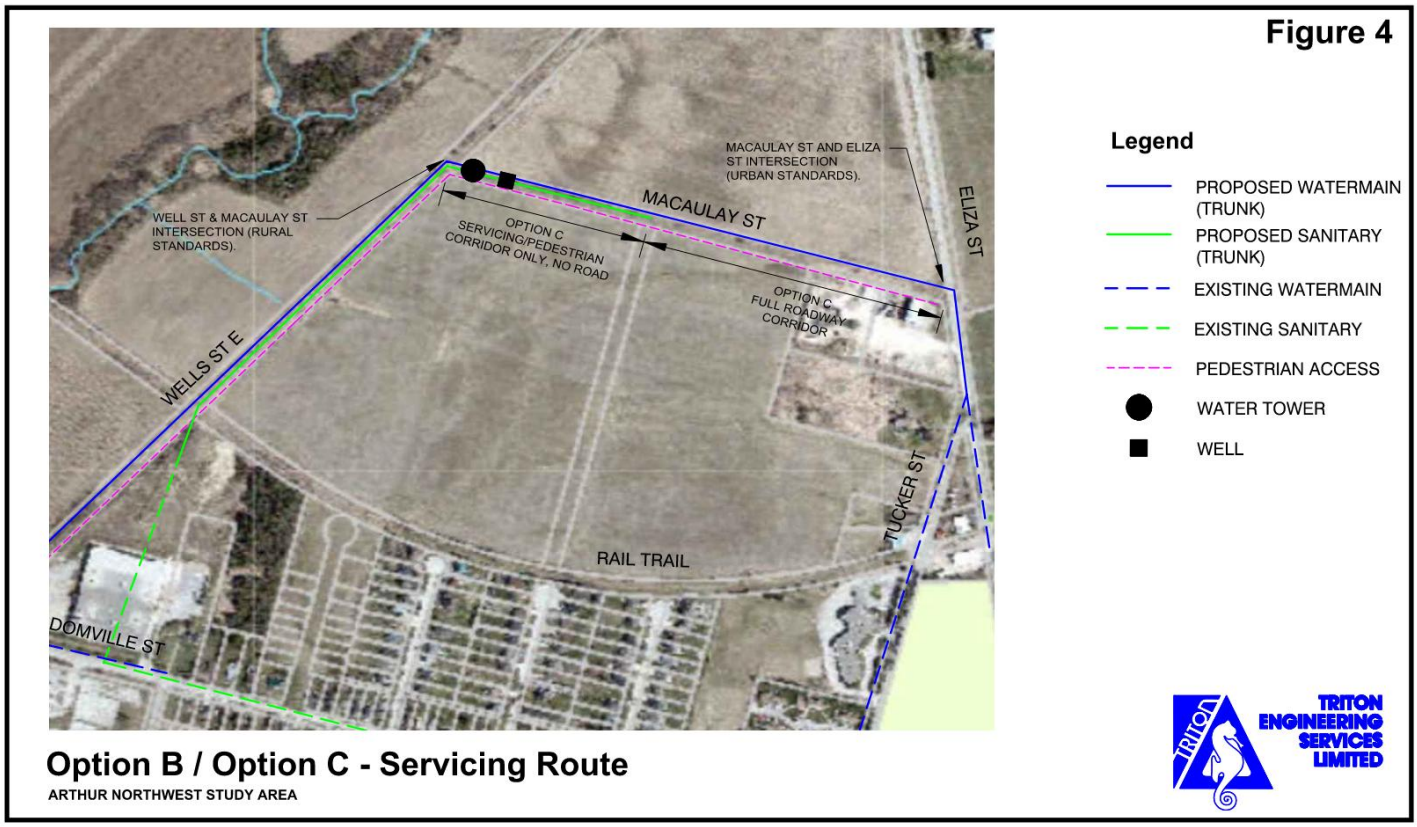


Figure 4 – Option B / Option C Servicing Route.

3.2.2.1 Water Serviceability

- Recommended routing of trunk watermain for this option includes along Wells Street East (Domville – Macaulay), Macaulay (Wells E – Eliza) and Eliza (Macaulay – Tucker), as recommended in the Water and Sanitary Systems Technical Review.

- Trunk main would be extended to future Well/Tower site from the Wells East main. A secondary service/main could also be extended from Macaulay Street.

- No watermain is required along Wells Street East north of Macaulay since there is no development potential as the west side is currently outside the urban boundary. Additionally, no water service is envisioned to support the future development lands (UFD4-1) to the east

- A local main would be required on Street A. If Street A is not proposed as a through road, consideration to be given to providing a main connection to either Wells East or Macaulay or the potential Well/Tower site. This will eliminate a dead-end and provide redundancy for industrial development.

Based on the above, Option B and Option C are given a score of 2 out of 3 within the category of Water Serviceability.

3.2.2.2 Sanitary Serviceability

- Limits of sewer on Macaulay are unknown at this time; based on the Tribute concept only a small portion would be required to service their concept. Also, it is unlikely that development east of Eliza could be serviced back to Macaulay due to topography limitation. Given this, it is assumed that only sewer from Wells Street East to Macaulay mid-point will be required.

- Recommended routing of sanitary sewer for this option includes along Wells Street East (Existing – Macaulay), Macaulay (Wells East – mid-point Eliza).

Based on the above, Option B and Option C are given a score of 2 out of 3 within the category of Sanitary Serviceability.

3.3 Costing

3.3.1 Option A

- Primary advantage of this option is its reduced infrastructure requirements. Utilizing Street A as an internal road/servicing corridor eliminates the need to provide a road and servicing on Wells Street East north of Street A. This is reflected in the lowest cost for this option.

Based on the above, Option A is given a score of 3 out of 3 within the category of Costing.

3.3.2 Option B

- Primary advantage of this option is it's reduced infrastructure requirements. Utilizing Eliza, Macaulay and lower Wells E as a transportation route eliminates the need to provide a road and servicing on Wells Street East above Macaulay. This is reflected in the lower cost for this option.

Based on the above, Option B is given a score of 2 out of 3 within the category of Costing.

3.3.3 Option C

- Option C would be the most expensive primarily due to the additional cost of construction of Wells Street East from Macaulay to Wellington Road 14 which is not required by the other options.

Based on the above, Option C is given a score of 1 out of 3 within the category of Costing.

3.4 Miscellaneous

Following are considered:

- Option C would require a crossing of a GRCA regulated watercourse.

- Option C would provide access to any future development along the full length of Wells Street East.

- Option B would provide a road for maintenance access of sanitary and water along the western portion of Macaulay since Macaulay is proposed over the entire length. Other options will require the construction/maintenance of a servicing corridor.

- Option A road requirement through the Coffey property will impact the development.

Given that there are pros/cons to each of the options, there is no net scoring for this category.

4.0 Comparison & Discussion of Options

Scoring summary:

Option	Transportation (0 - 6)	Water (0 – 3)	Sanitary (0 – 3)	Cost (0 – 3)	Total Score (Max 15)
Option A	1	2	2	3	8
Option B	3	2	2	2	9
Option C	6	2	2	1	11

Discussion:

- Option C provides the best alternative to support a truck route that is direct and avoids the residential areas on Eliza Street and Frederick Street, but it is unlikely to have any other benefit (i.e. servicing or local access).

- Based on future development potential, water and sanitary will not be extended on Wells East between Macaulay Street and WR14 even with the road construction applicable with Option C. Therefore, this additional road length will not provide any additional benefit beyond a transportation route (i.e. support additional development or provide servicing benefit).

- Option A provides servicing and cost efficiencies by utilizing the internal Street A, thereby avoiding road and servicing construction along Wells East beyond Street A. However, Option A is dependent on the configuration of the IL2-1 development providing a suitable route from Wells East to Macaulay (i.e. Street A). Our understanding is that the Owner has not finalized a development configuration and is open changes that would accommodate roads/servicing to suit the Option A intent. That said, the intersections and curves required for a truck route through these lands may require significant concessions that the developer may not be willing to grant.

- From a servicing standpoint, Options scored the same.

5.0 Recommendations

Option C scored highest, it also satisfies the primary objective of providing an efficient truck route. Given this, Option C is recommended.

If you have any questions, please contact us.