

**APPENDIX 3**  
County Policies





Appendix 3 County Policies  
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# 2024 Water and Wastewater Master Plan

## Appendix 3

### County Policies

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## 1.0 BUSINESS PLAN AND BUDGET

The Oxford County Business Plan and Budget annual report allows the County to allocate funding for various programs and services that target the County’s long-term priorities. The budget planning process includes consultation with the community through public surveys, the results of which are incorporated into departmental planning prior to obtaining Council approval. A key challenge highlighted in the 2020 report is aging infrastructure. Hence, a significant portion of the budget consists of replacement of the infrastructure or upgrading them to allow for provision of service levels as outlined in the Asset Management Plan. Infrastructure service delivery aims for high quality, efficient and safe public infrastructure and customer focused services that support the community, environmental and economic sustainability. Service delivery reviews that will be conducted by the County will be based on provincial modernization funding which will allow for budget allocation to projects that focus on better service to the community. This will support the water and wastewater treatment demands that are expected to increase significantly as growth occurs across the OC. Projects that will support the water and wastewater infrastructural requirements for the projected growth as listed in Table 1-1.

Table 1-1- Capital Growth Supporting Projects

Description	Implementation Timeline
SCADA Masterplan Implementation	2022 – 2024
Water and Wastewater Servicing Masterplan	2022 – 2023
Drinking Water Quality Improvements	2022 – 2024
D.C. Technical Study	2023 and 2028
Ground Water Modelling and Related Studies	2019 – 2028

System specific projects that will support growth related demands and are allocated in the County budget for 2022 and consecutive years are listed in Table.

Table 1-2 - System Specific Growth-Related Projects

Description	Implementation Timeline
Woodstock Water Supply Expansion onto various development areas	2028
Woodstock WWTP Expansion	2020-2025
Ongoing upgrades to the Drumbo WWTP	2023
Ongoing upgrades to the Tillsonburg WWTP	2028
Norwich Lagoon Expansion	2023
Tavistock Well 4 Supply Class EA Study	2022

Development Charges Background Study (2019)

The Development Charges (DC) Study as completed by Watson & Associates in 2018 and adopted by the County of Oxford in 2019 is in accordance with the Development Charges Act 1997 and recommends a DC that is applicable due to increased capital costs arising from increased needs of services. The study provided the ‘anticipated amount, type and location of development, for which development charges can be imposed, must be estimated.’ Watson’s DC study used the development potential and population forecasts provided by HEMSON Consulting’s’ OC Phase 1 Comprehensive Review study, as well as historical residential and non-residential building permit data as provided by the county. The report showed the water and wastewater supply service components as listed in Table 1-3 have a 100% potential for recovery of charges, thereby encouraging growth related infrastructure developments.

Table 1-3 - Potential D.C. recovery for municipal water and wastewater services.

Categories of Municipal Service	Service Components	Maximum Potential D.C. Recovery
Water Supply Services	Treatment Plants	100
	Distribution Systems	100
	Vehicles and Equipment	100
Wastewater Services	Treatment Plants	100
	Sewage Trunks	100
	Vehicles and Equipment	100

Condition Assessment and Inventory Summary Report - Oxford County Water and Wastewater Asset Identification Project (2020)

The Condition Assessment and Inventory Summary Report prepared by J.L. Richards for the Oxford County supplements the 2017 Oxford County Asset Management Plan (Section 2.4.7) with the aim of determining asset components, maintenance strategies, and condition assessments for all water and wastewater facility components. The report provided ratings on the existing physical conditions from a visual inspection conducted on the process mechanical, process electrical, instrumentation and controls, and process structural assets, as well as the remaining theoretical useful life of each component. In addition, the report also provided the replacement cost for each water and wastewater treatment system. The ratings, remaining theoretical life and corresponding replacement costs provided in JLR's report is referred to for the detailed condition assessments as part of this Masterplan.

## 2.0 PUBLIC WORKS STRATEGY ROAD MAP

The Oxford County Public Works Strategy Roadmap (2018) designed for the period 2019 – 2022 has stated its committed to “provide for the responsible delivery of high quality, efficient and safe public infrastructure and customer focused services that support community, environmental and economical sustainability”. Part of this vision is the County’s Zero Waste strategy with plans of incorporating leading waste recovery and biological treatment technologies such as anaerobic digestion and mechanical-biological treatment. In 2021, various projects such as equipment upgrades to offset facility non-renewable energy consumption and reduce greenhouse gas emissions for the Woodstock and Plattsville WWTPs were completed. DWS and WWTCS infrastructural recommendations for sustaining growth that will be made as part of the OC W/WW MP will implement this vision. Individual, high level, condition assessments of each DWS and WWTCS completed by RVA will be built upon the 2020 condition assessment report prepared by J.L. Richards & Associates as well as by other BCA’s to ensure sustainable goals are incorporated into all future plans.

### **3.0 COMMUNITY SUSTAINABILITY PLAN**

The Future Oxford Community Sustainability Plan was established to build a sustainable, vital, and more resilient future through a community that stands on vibrancy, prosperity, and responsibility. The plan establishes the delivery goals of Oxford County services including those by the Public Works department. Part of the Environment goals is ensuring long term protection of all source water by targeting reduction in municipal water consumption per capita by the milestone deadlines of 2020 and 2030. The actions set out to achieve this objective includes developing a County wide water management plan to protect all source water, enhancing water efficiency programs, and establishing regulations for sustainable water use. The solution for growth demands that will be provided in the OC W/WW MP will be designed to incorporate this plan's sustainability mission.

## 4.0 OXFORD COUNTY ASSET MANAGEMENT PLAN

### 4.1 Introduction

The Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure was filed in 2017 under the Infrastructure for Jobs and Prosperity Act (2015) with the purpose of implementing best practices for infrastructure needs by collaborating effectively between municipalities and the province. Accordingly, the Oxford County Asset Management Plan (AMP), published in 2014 and updated in 2017, was developed. It incorporates the County's community sustainability plan of "improving quality of life for Oxford's current and future generations and to balance Oxford's collective economic, community and environmental interests." The AMP provided the strategic direction for the \$2.3 billion County infrastructure that supports the needs of the area municipalities. Part of the plan is ensuring that the County can provide the levels of service required to support the current and future public's needs in alignment with County's strategic vision "Vibrant communities, working well and growing stronger, together" as outlined in the County Strategic Plan (2020 – 2022). The AMP further complements the County's Long Term Financial Sustainability Plan by providing a framework that will allow identifying core infrastructure that is required for enhanced quality of life and economic growth and, hence, eligible for future investments. The framework evaluates current conditions of infrastructure through performance assessment to provide an understanding of the current levels of service in comparison to the desired levels.

The AMP requirement of condition assessments of the water and wastewater linear infrastructure will be part of The OC W/WW MPs' study. The study acknowledges that, to meet the requirements of the AMP and the County's Strategic Plan, climate change impact and environmental factors must be implemented in the design, construction, and operation of the existing and future DWS and WWTCS. The service delivery aimed for the water and wastewater infrastructure is identified in the AMP report is as follows:

- Drinking water supply, treatment and distribution must improve the quality of life of customers by reducing the potential for water-borne diseases, allowing for economic development, fire protection, and providing opportunities for recreational activities; and
- Wastewater collection and treatment must ensure protection of the environment and public health of residents and visitors to Oxford County.

The servicing strategies generated in the OC W/WW MP are established upon the aforementioned service deliveries. Planned actions that will be recommended to meet the

service delivery requirements by each water and wastewater infrastructure will be based on the existing conditions, and can include:

- Rehabilitation to extend the life of the asset;
- Replacement for assets that have reached the end of its useful life and rehabilitation is no longer an option; and
- Expansion with the aim of extending services to previously unserved areas or expand services to meet growth demands.

The planned actions for each system component will also be based on the consequences of their failure as outlined in Table 4-1.

## 4.2 Asset Management System Review

The 2019 Oxford County Asset Management Systems Review report prepared by GM BluePlan provides a breakdown of the operational efficiencies and processes of the County's Asset Management (AM) systems. GM BluePlan's AM report provides guidelines on balancing cost with levels of service, risk, and lifecycle management strategies to provide sustainable communities with efficient infrastructural assets. AM plans are also linked to funding opportunities since the 'Building Together: Guide for Municipal Asset Management Plans' program in 2012' was adopted by the Ontario Government. In addition, the requirements of the following legislation have been met via the AM plan:

Jobs and Prosperity Act 2015, which encourages the use of strategic, long-term infrastructure investment and planning.

Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure 2017 that requires every Municipality in Ontario to develop a strategic asset management policy.

The OC W/WW MP will refer to the AM plan for the following:

- The process to align asset management planning to financial plans related to water and wastewater assets including infrastructure assets that are being collaborated between neighboring municipalities such as the Drumbo DWS that feeds Princeton;
- From the phase one of the Municipal AM Plan, the current and future levels of service (LOS) based on existing and growth demands, performance measures of the wastewater and drinking water infrastructural assets, and approach to performing condition assessment that are based upon industry-accepted engineering practices; and

- From phase three of the Municipal AM plan, the capital expenditures, and operating costs to achieve the proposed LOS to meet the projects demands.

The ‘Ideal State Flow’ for vertical and linear water and wastewater infrastructure in the AM plan requires that SCADA (vertical), Watertrax (linear) and a GIS based asset management systems be used to achieve a logical process flow for efficient and effective connectivity and functionality. It was identified that data flow between the County’s GIS and CityWide assets received annually from local area municipalities for water or wastewater infrastructure has limitations which lead to discrepancies. To resolve these limitations, the AM plan has identified specific projects that targets sophistication of obtaining and manipulating data to support informed and accurate decision making in the County. Implementing the projects is expected to ensure compliance with and, subsequently, funding from federal and provincial regulations which is crucial to meet the significant growth demands particularly for the County’s water and wastewater infrastructure. Therefore, projects related to asset management are identified as growth related.

Table 4-1 - Asset Component Failure Consequence

Consequence	Asset Component – Water Systems	Asset Component – Wastewater Systems
Minimal	Valves, Meters	Sanitary Lateral, STEP/STEG units and Girder Pumps
Marginal	Services	Biosolids Centralized Storage Facility
Serious	Hydrants, Local Mains, Other	Odour Control Facilities, Local Main
Critical	Wells, Pumping Stations, Transmission Mains	Pumping Station, Trunk Sewer, Force Main
Catastrophic	Water Treatment Facility, Storage	Wastewater Treatment Plant

## 5.0 WATER AND WASTEWATER RATES STUDY

The Oxford County Water and Wastewater Rates Study is undertaken to recuperate the system's operating costs, and fund investment requirements for rehabilitation and replacement of infrastructure. The rates are set for a quarterly period based on the annual operating budget and ensures that sufficient funding is available to meet the system's required service level. In addition, the Asset Management Plan adopted by OC in 2017 providing existing asset replacement and rehabilitation values is used for estimating annual investment requirements.

The preliminary 2021 to 2024 rates have been developed by HEMSON to provide the required revenue based on operations and non-growth capital requirements for the 2021 to 2024 County Budgets. The 2021 - 2024 rates account for numerous fee considerations including the elimination of the Tillsonburg Sewer Property Tax Levy and the Source Water Protection program charge, as well as the development of a fixed rate for water consumption by developers during construction. The rates are also based on the 2020 Capital budget which incorporates Watson & Associates 2019 Development Charges Background Study, hence accounting for capital projects expenditures. Two sets of rates were developed by HEMSON for the 2021 – 2024 period as follows:

Rates under the current system structure on the basis of one consumption rate for all water systems, one residential consumption rate for all wastewater systems and individual ICI consumption rates for each wastewater system; and

Rates under a four water and four wastewater system structure in consideration of one consumption rate for all water systems, one residential consumption rate and one ICI consumption rate for all wastewater systems.

Per the MECP guidelines, wastewater rates are calculated based on the amount of water consumed by each individual user, and the rates set by OC have been structured to promote customer control and water conservation measures. Over a data period from 2012 to 2019, a decline in billed consumption is observed in the three large Urban Areas. Similar trends are observed in the remaining area municipalities over a limited data period of 2018 – 2019. Since the trends are observable to be pre-pandemic, it cannot be treated as an anomaly due to the pandemic. This trend is expected to continue and will be accounted for in the projected daily flows/demands in the OC W/WW MP so that overestimations leading to funding diverted to unnecessary expansion projects is avoided.

## 6.0 ENERGY MANAGEMENT PLAN

Ontario Regulation 507/18 under the Electricity Act, 1998 requires Ontario public agencies, including municipalities, to report the annual energy consumption and GHG emissions to the Ministry of Energy, Northern Development and Mines by July 1st of each year as well as make the reports available on their website. In addition, each public agency was required to post an initial energy management plan every five years beginning July 1st, 2014, which is to include but not limited to:

- Annual energy & GHG emissions;
- Goals & objectives;
- Review of results from past plans;
- Implemented & Proposed measures; and
- Renewable Energy.

In response, the County has demonstrated its commitment to the objectives of the Act by implementing numerous policies including the 100% Renewable Energy by 2050 goal announced in 2015. Since then, the County has added the Zero Waste and Zero Poverty initiatives to its sustainability goals and is expanding the energy management plan to also include fleet and biogas emissions from landfill and wastewater treatment plants. Numerous projects aimed to meet the goals outlined in the initiatives have been completed as detailed in Section 2.4.2. The goals of this plan will be part of the foundation of future recommendations that will be provided in the OC W/WW MP.

## 7.0 TRANSPORTATION MASTERPLAN

The Oxford County Transportation Master Plan prepared by Paradigm Transportation Solutions Ltd. for Oxford County in 2019 provides a strategic plan to manage the anticipated transportation demands to the year 2038 and beyond. It adopts key County strategic plans which has been used as references for The OC W/WW MP as well including the Oxford County Phase One Comprehensive Review (2019), Oxford County Asset Management Plan (2017), Oxford County Official Plan (as amended) and 100% Renewable Energy Plan (2016).

The Transportation Masterplan anticipated growth based on population and employment growth forecasts, land use and future development patterns, collision data, origin-destination surveys, and trip generation/travel demand estimation. The study produced the following results:

- 63.4% of Oxford residents work inside the County, while 26.5% work outside the County. The remaining 10.1% of employed residents have no fixed work address;
- 80% of inbound commuting trips from neighbouring jurisdictions are destined for the urban centres of Woodstock, Ingersoll and Tillsonburg. The remaining 20% of inbound commuting trips are destined for the five townships within the County;
- The number of people travelling to work in the County (51% of total employment population of Oxford County) is slightly higher than the number of residents travelling to work outside (49% of total employment population of Oxford County); and
- 8.5% of the employed workforce in Oxford County works from home.

The 2011 National Household Survey has indicated that the number of residents working from home has decreased. However, it is expected that the number has dramatically increased for a temporary time (2020 – 2022) due to the pandemic, and a portion has shifted permanently to working from home. The existing travel patterns as detailed in the Transportation Masterplan also indicate that the three urban centres of Woodstock, Ingersoll and Tillsonburg are the major locations of the County's employment market, and that employment activities existing in the County's five Townships are focused primarily in their serviced and partially - serviced Communities.

The OC W/WW MP has relied on the information provided in the Transportation Masterplan regarding future employment population in combination with HEMSON's projections to formulate the expected average and maximum day demands/flows for the County's water

and wastewater systems. Since the number of people travelling to the County is approximately offset by the number of people leaving the County for work, and a majority of Oxford residents work within the County itself, the trends in the employment population is expected to be proportionate to the overall County population trends and as detailed in Section 2.1.3.2.

## **8.0 WATER AND WASTEWATER SPECIFIC POLICIES**

The County of Oxford maintains three DWQMS and Operation Plans per the requirements of the Ontario Drinking Water Quality Management Standard (2017), and Safe Drinking Water Act (2002). The plans outline key policies for the operation and maintenance of all Municipal Drinking Water Drinking Water Systems within Oxford County, and individual Operational Plans except for the City of Woodstock and the Town of Tillsonburg Distributions systems which have separate DWQMS plans each. Implementation of the plan is the responsibility of Oxford County, who ensure that customers are provided with safe, potable drinking water that consistently meets or exceeds regulatory requirements in the interest of protecting public health.

## 9.0 REFERENCES

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- S. Elkins, et al., “Oxford County Transportation Master Plan”. Oxford County, 2019.
- V. Pileggi, et. Al., “Design Guidelines for Sewage Works 2008”, Ontario Ministry of the Environment Sewage Technical Working Group, 2008



**Subconsultant Work Scope**  
**EXP – Geotechnical Services**



**APPENDIX 1-1**

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**Subconsultant Work Scope**  
RKLA – Arborist Services



**APPENDIX 2-1**

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**APPENDIX 3**

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**APPENDIX 3-1**

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