

June 7, 2019

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Master Plan – Project File Report

Jarvis Master Servicing Plan Update



Table of Contents

1.0	INTRODUCTION	1
1.1	Project Overview	1
1.2	Objectives of the Master Plan	1
1.3	Study Area Overview	1
1.4	Previous Studies	3
2.0	PUBLIC AND AGENCY CONSULTATION.....	4
2.1	Notice of Study Commencement	4
2.2	Public Information Centre.....	4
2.3	Public Stakeholder Comments.....	4
2.4	Developer Stakeholder Comments	5
2.5	Review Agency Consultation	5
3.0	WORK PACKAGE OVERVIEW	6
3.1	Work Package 1 – Existing Conditions	6
3.2	Work Package 2 – Growth Forecast and Assessment of Future Needs	6
3.3	Work Package 3 & 4 – Preferred Strategies and Implementation Plan.....	7
4.0	NEXT STEPS	8
5.0	LIMITATIONS.....	8
6.0	REFERENCES	9

List of Figures

Figure 1 - Jarvis MSP Study Area Boundary	2
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List of Tables

Table 1 - Summary of Public Stakeholder Comments.....	4
Table 2 - Summary of Developer Stakeholder Comments	5
Table 3 - Summary of Agency Comments.....	5
Table 4 - Cost Estimate of Preferred Servicing Alternatives.....	7

List of Appendices

Appendix A – Work Package 1 – Existing Conditions
Appendix B – Work Package 2 – Growth Forecast and Future Needs
Appendix C – Work Package 3&4–Preferred Servicing Strategies and Implementation
Appendix D – Notice of Study Commencement and Distribution List
Appendix E – Public Information Centre Materials
Appendix F – Correspondence

1.0 INTRODUCTION

1.1 Project Overview

The community of Jarvis is located approximately 15 kilometres north of Lake Erie in the western part of Haldimand County (the County) at the cross roads of Highway 6 and Highway 3. The community has a population of approximately 2,000 residents (Watson, 2018), and development is predominantly residential. Industrial, commercial, and institutional (ICI) development is concentrated in the north side of the community along Highway 6.

In 2010 the Jarvis Master Servicing Plan (MSP) for Water, Wastewater, Stormwater, and Transportation (Stantec, 2010) was completed. To support planned growth and intensification identified in the County's Official Plan, Haldimand County is undertaking an engineering study to update the 2010 Master Servicing Plan (MSP). The purpose of the study is to update the four (4) servicing components (water, wastewater, stormwater, and transportation) of the 2010 Jarvis MSP to reflect updated land use and growth forecasts in the study area, and identify updates to existing conditions and related assumptions based on growth that has since occurred.

1.2 Objectives of the Master Plan

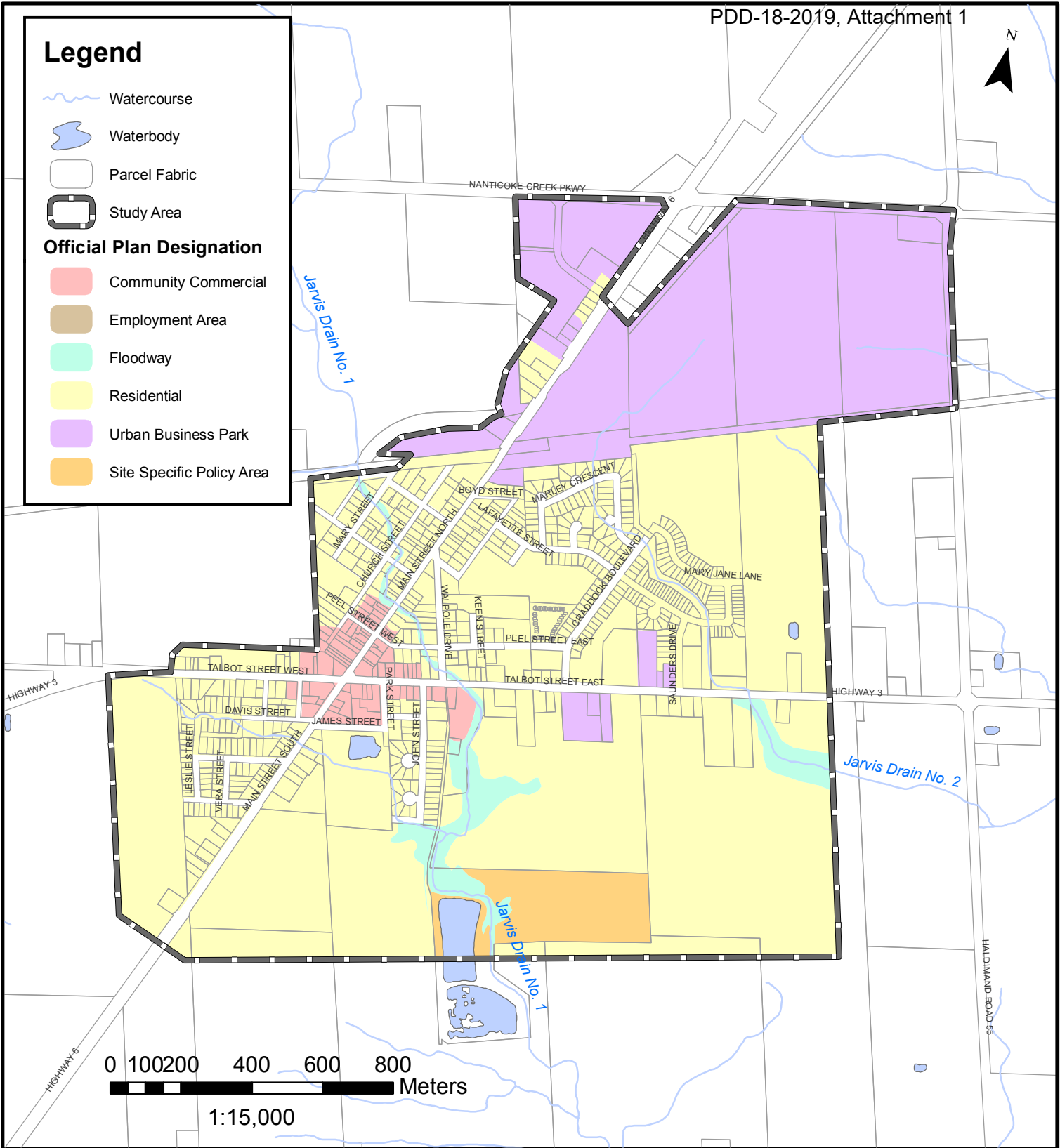
The Master Plan update considers the findings from the 2010 MSP, as well as changes to the environment (as defined in the EA Act) and infrastructure since it was completed. Each component of the MSP update will be provided in the framework provided below:

- Work Package 1 – Existing Conditions (Appendix A)
- Work Package 2 – Growth Forecast and Future Needs (Appendix B)
- Work Package 3&4–Preferred Servicing Strategies and Implementation Plan (Appendix C)

As well as updating the MSP, the County is concurrently conducting a review of fire flow requirements in the County (Work Package 5) and a Class EA to determine the preferred alternative to increase wastewater treatment capacity for Jarvis (Project File Report to be issued June 2019). The fire flow review and Class EA are documented in separate reports.


1.3 Study Area Overview

The study area for the MSP update encompasses the urban boundary of Jarvis, and is consistent with the 2010 Jarvis MSP study area. Figure 1 illustrates the study area boundary. Municipal infrastructure in Jarvis includes a communal water and wastewater system, stormwater infrastructure and a transportation network.



PROJECT: JARVIS MASTER SERVICING PLAN UPDATE
JARVIS, HALDIMAND COUNTY, ONTARIO

DRAWING: STUDY AREA BOUNDARY AND DESIGNATED LAND USES

 J.L. Richards ENGINEERS · ARCHITECTS · PLANNERS www.jlrichards.ca	This drawing is copyright protected and may not be reproduced or used for purposes other than execution of the described work without the express written consent of J.L. Richards & Associates Limited.	DESIGN: JW	DRAWING #: FIGURE 1
		DRAWN: KTK	
		CHECKED: JW	
		JLR #: 28176	

Community water is supplied via a transmission main from the Nanticoke Water Treatment Plant (WTP) and is stored in a shared elevated tank north of Townsend. Wastewater in Jarvis is conveyed to the Jarvis wastewater treatment lagoons which are owned and operated by the County. The storm system in Jarvis generally consists of traditional stormwater management infrastructure (e.g. ditches, urban curb and gutter networks) and two (2) stormwater management (SWM) facilities. The community of Jarvis is built adjacent to Highway 6 (Main Street) and Highway 3 (Talbot Street). Both those highways are “connecting links” in the Provincial highway network.

1.4 Previous Studies

In 2010, a Master Servicing Plan report was prepared (Stantec, 2010) to help guide the development of water, wastewater, storm and transportation services with respect to the County’s Official Plan to accommodate future development. Further details of the report findings are discussed in Work Package 1 (Appendix A).

In addition to the 2010 MSP referenced throughout this report, the following studies related to water, wastewater, stormwater and transportation infrastructure in Jarvis are referenced in the preparation of this Master Servicing Plan Update.

2010 MSP – present

Haldimand County Services and Planning Division. *Design Criteria*, Version 4.0, April 2015.

Ministry of Municipal Affairs and Housing. Ontario Government, *Provincial Policy Statement, 2014*, Section 3 Planning Act, 30 April 2014.

Haldimand County Planning & Economic Development Department. *The Haldimand County Official Plan*, Council adopted 26 June 2006, Ministry approved 8 June 2009.

Lake Erie Region Source Protection Committee. Long Point Region Source Protection Area Approved Source Protection Plan, Under Clean Water Act 2006, 4 November 2015.

Watson & Associates Economists Limited. *Population, Housing and Employment Projections Study Update, 2016-2046 - Preliminary Draft Findings*. October 2018.

Upper Canada Consultants. *Topographic Volumetric Survey of Jarvis Sewage Lagoons*, 17 July 2018.

Dave Chapman (CPO Inc.). *Jarvis lagoons: Capacity Assessment & Contingency and Abatement Plan Technical Memo*, 6 June 2011.

CPO Inc. and Haldimand County. *Jarvis lagoon Effluent Phosphorous Offsetting*, 20 July 2016.

Stantec Consulting Ltd. *Jarvis Master Servicing Plan Water, Wastewater, Stormwater, and Transportation*, September 2010.

Prior to 2010 MSP

Stantec Consulting Ltd. *Jarvis Inflow and Infiltration Study*, March 2010.

2.0 PUBLIC AND AGENCY CONSULTATION

2.1 Notice of Study Commencement

A Notice of Study Commencement (provided in Appendix D) was prepared by the consulting team. The Notice included a comment form for stakeholders to return by mail or email. A project mailing list was developed identifying developer and review agency stakeholders. A copy of the mailing list is also provided in Appendix D. The Notice was issued via the following means:

- Placed on the County's website starting March 29, 2019.
- Placed in two (2) issues of the local newspaper between March 28, 2019 and May 30, 2019.
- Mailed to developers and review agencies on March 29, 2019.
- Emailed to Aboriginal Communities on April 5, 2019.

Responses received to the Notice of Commencement are included in Section 2.3 to 2.5.

2.2 Public Information Centre

The Public Information Centre (PIC) for the Master Servicing Plan took place on May 30, 2019 at the Jarvis Library from 4:00 to 6:00 pm. A Notice of PIC (provided in Appendix E) was prepared by the consulting team. The Notice was issued via the following means:

- Placed on the County's website starting May 22, 2019.
- Placed in two (2) issues of the local newspaper between May 22, 2019 and May 30, 2019.
- Mailed to developers and review agencies on May 21, 2019.

Boards presenting the project information were on display (provided in Appendix E) and representatives from the project team and staff from the County were available to answer questions during the PIC. The PIC was attended by four (4) members of the public. Comment forms were provided; however, no completed forms were received. Refer to Appendix E for a copy of the comment form.

2.3 Public Stakeholder Comments

Table 1 below provides a summary of public comments received to date regarding this Master Plan. Comments regarding the Jarvis Additional Wastewater Treatment Capacity Class EA are documented in the Class EA Phase 2 Report (Work Package 6).

Table 1 - Summary of Public Stakeholder Comments

Stakeholder	Comment	Action
Public Commenter 1	May 27, 2019 – Questioned if property is located in the study area.	Confirmed that property is located outside of study area. No further action required.

2.4 Developer Stakeholder Comments

Table 2 provides a summary of developer comments received to date regarding this Master Plan. Refer to Appendix F for a copy of the Developer written correspondence received.

Table 2 - Summary of Developer Stakeholder Comments

Stakeholder	Comment	Action
Developer 1	April 3, 2019 – Noted that the Notice of Commencement did not include information regarding the PIC. Asked that this information be provided.	Included on distribution list for the PIC.
Developer 2	April 30, 2019 - Asked if any works are proposed for Hagersville.	Provided the developer with Peter Minkiewicz's contact information. No further action required.

2.5 Review Agency Consultation

Table 3 provides a summary of agency comments received to date regarding this Master Plan. Refer to Appendix F for a copy of the Agency written correspondence received.

Table 3 - Summary of Agency Comments

Stakeholder	Comment	Action
Ministry of Tourism, Culture, and Sport (MTCS)	April 3, 2019 – The MTCS indicated that a Heritage Impact Assessment (HIA) should be undertaken by licensed consultants, submitted to MTCS for review, and incorporated into the Master Plan. MTCS also recommends determining if an archaeological assessment will be required using MTCS <i>Criteria for Evaluating Archaeological Potential</i> and <i>Criteria for Evaluating Marine Archaeological Potential</i> .	The proposed projects will be screened using the MTCS Criteria for Evaluating Archaeological Potential and the MTCS Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes prior to implementation
Ministry of the Environment, Conservation and Parks	April 5, 2019 – The MECP provided a list of Aboriginal communities that require consultation as part of the duty to consult and outlined steps that must be followed in relation to Aboriginal consultation. The MECP requested that all Notices and the completed project information form is sent to the West Central Region.	Aboriginal communities were contacted on April 5, 2019

3.0 WORK PACKAGE OVERVIEW

Four (4) work packages have been prepared by the project team in support of this Master Plan. This section summarizes the main findings of each package. These findings were used to evaluate and select future water, wastewater, stormwater, and transportation servicing alternatives in Jarvis. The findings from each package are summarized in the following sections.

3.1 Work Package 1 – Existing Conditions

J.L. Richards & Associates Limited (JLR) completed a background review of the existing servicing conditions in Jarvis. This included a review of the findings from the 2010 MSP, as well as an analysis of the existing servicing conditions and constraints present in Jarvis. The following major constraints were identified:

- **Water Servicing:** Under existing conditions, approximately 40% of junctions are capable of meeting the proposed fire flow requirement of 80 L/s. It was also identified that the County may wish to consider an additional connection from the Nanticoke WTP to increase water supply redundancy and improve system looping.
- **Wastewater Servicing:** A bottleneck exists in the system at the intersection of Talbot Street and Walpole Drive.
- **Stormwater Servicing:** During the 5-year event, there are two (2) locations where water surcharges to the surface, both of which are in the Marley/Craddock sewershed. As well, two (2) independent inlets and sewers on Cabot Court and Craddock Boulevard accept more inflow than the sewer capacity can handle, causing surcharge to the surface.
- **Transportation Servicing:** No critical movements were identified at any of the study intersections.

Please refer to Appendix A for the full work package.

3.2 Work Package 2 – Growth Forecast and Assessment of Future Needs

JLR completed an analysis of the future servicing needs required by Jarvis based on the projected residential and Industrial, Commercial, and Institutional (ICI) growth projections. Based on a study by Watson & Associates Economists Limited (Watson, 2018), the anticipated population growth for the 20-year horizon from 2018 to 2038 is an increase of 340 persons and 178 units respectively.

Based on the population and development growth in Jarvis, the following future conditions and constraints were identified:

- **Water Servicing:** Under future conditions, due to improved looping, approximately 80% of junctions are capable of meeting the proposed fire flow requirement of 80 L/s. Consideration should be given to an additional connection from the Nanticoke WTP to increase water supply redundancy and improve system looping.

- Wastewater Servicing: Under future conditions, there is potential flood risk at Walpole Drive and Talbot Street East intersection (existing constraint) as well as at the intersection of Cradock Boulevard and Peel Street East. There will be capacity constraints at Main Street North, just south of Lydia Street.
- Stormwater Servicing: During the 5-year event, there are two (2) locations where water surcharges to the surface, both of which are in the Marley/Cradock sewershed. As well, two (2) independent inlets and sewers on Cabot Court and Cradock Boulevard accept more inflow than the sewer capacity can handle, causing surcharge to the surface.
- Transportation Servicing: Under future conditions, there is a decrease in Level of Service (LOS) at the intersection of Talbot Street and Main Street, and the eastbound approach movement of Nanticoke Creek Parkway. There is potential for remedial measures at these intersections.

Please refer to Appendix B for the full work package.

3.3 Work Package 3 & 4 – Preferred Strategies and Implementation Plan

Work Package 3 – Preferred Servicing Strategies and Work Package 4 – Implementation Plan were combined into one (1) document. JLR developed a number of servicing strategies based on the 2010 MSP as well as the identified existing and future servicing constraints. Required projects and cost estimates were updated for the various servicing projects proposed in the 2010 MSP. A summary of the total cost of the proposed upgrades to meet 20-year projected demands is provided in Table 4.

Table 4 - Cost Estimate of Preferred Servicing Alternatives

Service	Cost Estimate 2018-2038 (2018\$)	Cost Estimate >2038 (2018\$)
Water Servicing	\$4,636,000	\$1,059,000
Wastewater Servicing	\$7,524,000*	\$1,810,000
Stormwater Servicing	\$1,516,000	\$3,914,000
Transportation Servicing	\$1,060,000	\$2,230,000
Total	\$14,736,000	\$9,013,000

* Includes \$5.4M for upgrades to the main SPS and a new forcemain to Townsend

Please refer to Appendix C for the full work package.

4.0 NEXT STEPS

Following the receipt of comments from affected parties and review agencies, and confirmation of the preferred alternative, the Town will be in a position to post the Class EA Project File that documents the Class EA process. After the 30-day period for comment closes, and if there is no request for a "Part II Order" from the MECP, the Phase 1 and 2 of the Class EA will be complete. The County will then be in position to consider Project Implementation of Schedule B projects and proceed directly into preliminary design.

5.0 LIMITATIONS

This report has been prepared for the exclusive use of Haldimand County, for the stated purpose. Its discussions and conclusions are summary in nature and cannot be properly used, interpreted or extended to other purposes without a detailed understanding and discussions with the client as to its mandated purpose, scope and limitations. This report was prepared for the sole benefit and use of Haldimand County and may not be used or relied on by any other party without the express written consent of J.L. Richards & Associates Limited.

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6.0 REFERENCES

Watson & Associates Economists Limited. *Population, Housing and Employment Projections Study Update, 2016-2046 - Preliminary Draft Findings*. October 2018.