



Township of Cramahe

**Cramahe Industrial Park
Sanitary System Upgrades**

**Municipal Class Environmental
Assessment – Schedule B**

D.M. Wills Project Number 13-2907

D.M. Wills Associates Limited

Partners in Engineering
Peterborough

September 2019

**Prepared for:
Township of Cramahe**

Summary of Revisions

Revision No.	Revision Title	Date of Release	Summary of Revisions
1	Final Draft	September 9, 2019	Revisions based on public comments received.

This report / proposal has been formatted considering the requirements of the Accessibility for Ontarians with Disabilities Act.

Table of Contents

Executive Summary	v
1.0 Introduction	1
1.1 Report Organization	1
1.2 Project Team.....	3
2.0 Municipal Class EA Process.....	3
3.0 Existing Conditions	7
3.1 Natural Environment.....	7
3.1.1 Species at Risk.....	7
3.1.2 Fisheries Information	8
3.1.3 Source Water Protection	8
3.2 Cultural Environment.....	9
3.3 Economic Environment.....	9
3.4 Planning Considerations	9
3.5 Existing Sanitary Servicing within the Study Area.....	12
3.6 Existing Conventional Gravity Sewer Pipe and Waste Water Treatment Plant...	14
4.0 Phase 1: Problem / Opportunity Statement	16
5.0 Phase 2: Identification of Alternative Solutions.....	16
6.0 Evaluation of Alternatives	17
6.1 Natural Environment Considerations	17
6.1.1 Source Water Protection	17
6.1.2 Existing Conditions Assessment – Natural Environment	18
6.2 Archaeological Considerations.....	19
6.3 Development Potential Considerations	20
6.4 Social Considerations.....	21
6.4.1 Service Disruptions.....	21
6.4.2 Recreation and Tourism.....	21
6.5 Economic Considerations.....	21
6.5.1 Capital Costs.....	21
6.5.2 Operation and Maintenance Costs	22
6.5.3 Net Present Value.....	23
6.6 Public, Stakeholder and Agency Consultation	25
6.6.1 Notice of Study Commencement	25
6.6.2 Public Information Centre	25

6.7	Evaluation Summary	26
7.0	Preferred Solution	27
7.1	Additional Investigations.....	27
7.1.1	Stage 2 Archaeological Assessment	27
7.1.2	Geotechnical.....	27
7.1.3	Approvals.....	28
7.2	Notice of Study Completion.....	28
8.0	Impacts and Mitigation of Preferred Alternative	28
8.1	Environmental.....	28
8.1.1	Breeding Birds.....	29
8.1.2	Bats	29
8.1.3	Aquatics.....	29
8.2	Economic	30
8.3	Future Considerations of the Colborne Sanitary System	30
9.0	Next Steps	31
9.1	Submission of Project File Report	31
9.2	Part II Order Requests	31

Figures

Figure 1 – Class EA Study Area.....	2
Figure 2 – Class EA Planning and Design Process Flow Chart	5
Figure 3 – Source Water Protection.....	8
Figure 4 – Official Plan Schedule "A" Land Use Plan	6
Figure 5 – Study Area imposed on WHPA Mapping	11
Figure 6 – Existing Small Diameter Sanitary Sewer.....	13
Figure 7 – Existing Colborne Sanitary Collection Network	15

Tables

Table 1 – Net Present Value	24
Table 2 – NPV Compared to Serviceable Area	24
Table 3 – Summary of Public Comments.....	25
Table 4 – Summary of the Colborne Industrial Park Sanitary Alternatives Key Features and Issues	26

Appendices

- Appendix A - Natural Environment
- Appendix B - Archeological Report
- Appendix C - Clearford Report
- Appendix D - Alignment Plans
- Appendix E - Preliminary Cost Estimates
- Appendix F - Public Notifications
- Appendix G - Public Comments and PIC Presentation Materials

Executive Summary

D.M. Wills Associated Limited (Wills) was retained by the Corporation of the Township of Cramahe (Township) to complete a Schedule B - Municipal Class Environmental Assessment (Class EA) study to examine various sewer alignments for sanitary sewer servicing upgrades in the Colborne Industrial Park. The existing small diameter sanitary pipe system servicing a portion of the industrial lands outlets to the existing municipal gravity sewer on Percy Street. The Study Area (see **Figure 1**) was established to consider existing serviced properties, existing un-serviced properties and potential future development adjacent to the existing system.

Schedule B activities include wastewater management projects that establish, extend or enlarge a sewage collection system and all works necessary to connect the system to an existing sewage outlet where such facilities are not in an existing road allowance or an existing utility corridor. Additionally, Schedule B projects have the potential for some adverse environmental effects, and although subject to screening, require completion of Phase 1 and Phase 2 of the Class EA process prior to proceeding to detailed design and construction.

The problem / opportunity statement for the study was defined as:

The existing sanitary sewer network within the Colborne Industrial Park is at or near capacity. Therefore, a sewage network upgrade is necessary to maintain service to the existing customers within the Industrial Park, and which also allows for additional development within the industrial zoned lands.

The list of alternative solutions to address the problem included:

- Alternative #1 – Do Nothing – Existing Small Diameter Sanitary Sewer
- Alternative #2 – Easement from Industrial Park Avenue
- Alternative #3 – Sewage Pumping Station
- Alternative #4 – Easement from Elgin Street

The alternative solutions are shown in **Appendix D**.

Although **Alternative #1** – Do nothing - Existing Small bore does not address the problem statement, in accordance with the Class EA guidelines, it is included in the study so that the costs of maintaining the existing system could be compared against the other proposed alternatives.

Alternative #2 proposes to replace the existing sanitary sewer network in the Industrial Park with an expanded capacity sanitary network and also marginally increase the service area of the Industrial Park to service the entire existing industrially zoned area. The proposed Alternative #2 alignment is shown in **Appendix D**. The proposed alternative is to install sanitary mains on Purdy Road, and Industrial Park Road, which will converge at a new easement between Industrial Park Road and Percy Street to ultimately outlet to the existing sanitary system on Percy Street.

Alternative #3 proposes to replace the existing sanitary sewer network in the Industrial Park with an expanded capacity sanitary network in terms of pipe size (sanitary capacity) and area serviced. The proposed Alternative #3 alignment is shown in **Appendix D**. The proposed alternative is to install sanitary mains on Purdy Road, Industrial Park Road and Elgin Street North, out-letting to a proposed sewage pumping station on Elgin Street North which will pump sewage to the existing sanitary main located on Park Street East.

Alternative #4 proposes to replace the existing sanitary sewer network in the Industrial Park with an expanded capacity sanitary network in terms of pipe size (sanitary capacity) and area serviced. Alternative #4 alignment is shown in **Appendix D** and generally involves the installation of sanitary mains on Purdy Road, Industrial Park Road and Elgin Street North. This alignment will make use of a proposed easement between Elgin Street North and Percy Street, which is located on private property, currently owned by Linda Hinton. The proposed sanitary main will connect with the existing Colborne sanitary system on the on the west end of the proposed easement at Percy Street.

Following a detailed analysis of the alternatives, the preferred solution to address the problem / opportunity statement identified for the Colborne Industrial Park was

Alternative #4 – Easement from Elgin Street.

The total serviced area including future potential areas of the four alternatives were compared and are as follows:

- Alternative #1 – 40.8 ha
- Alternative #2 – 180.4 ha
- Alternative #3 – 211.8 ha
- **Alternative #4 – 211.8 ha**

The estimated project Capital Costs for the alternatives are as follows:

- Alternative #1 – \$1,000,000
- Alternative #2 – \$3,800,000
- Alternative #3 – \$5,230,000
- **Alternative #4 – \$4,458,000**

There are no immediate capital costs associated with Alternative #1, however since the pipe is nearing the end of its useful life, it is expected that Alternative #1 will require pipe replacement within 10 years and is estimated at \$1,000,000.

The estimated Operation and Maintenance (O & M) costs for the alternatives were compared, and are as follows:

- Alternative #1 – \$20,000 / year
 - This does not account for annual private costs associated with maintaining the existing system.

- Alternative #2 – \$5,000/ 5 years
- Alternative #3 – \$15,000/ year plus \$5,000/year
- **Alternative #4 – \$5,000/ 5 years**

The total project cost including O & M costs for each alternative were calculated over a 20 year Net Present Value (NPV) and compared against the per hectare cost to service land for each alternative, and are as follows:

- Alternative #1 – \$26,788.77 / ha
- Alternative #2 – \$21,146.50/ ha
- Alternative #3 – \$25,867.16 / ha
- **Alternative #4 – \$21,118.17/ ha**

The NPV / ha cost for Alternative #1 doesn't include lost opportunity costs associated with the existing municipal investment in the Industrial Park or the impact of limitations on development and economic growth on lands currently owned by the Township. Alternative #1 does not permit additional development, which could have significant negative impact on potential economic growth within the Township. Considering Alternatives #2, #3, and #4, which do permit additional development, the cost per hectare of sanitary servicing is the least expensive with Alternative #4.

Although Alternative #4 is not the least expensive, it does provide the largest area for potential expansion, and lowest O & M costs while also addressing the problem statement.

Public consultation for the project included a Notice of Commencement, a Public Information Center (PIC) and a Notice of Completion. The public consultation component of the project is outlined in detail in **Section 6.0** of this report and all notices are included in **Appendix F**.

A PIC was held at the Cramahe Municipal Administrative Building in Colborne on March 21, 2018. There were nine attendees listed on the sign in sheet and a total of four comments were received. Of the comments received, three were in favour of Alternative #4, and one comment was a general comment relating to sanitary services.

A Notice of Study Completion was distributed to project stakeholders by regular mail on September 12, 2019 and advertised in the local newspaper (Northumberland News) on September 12, 2019. The Notice of Completion came into effect on September 12, 2019. Following the Notice of Completion there is a 30-day commenting period between September 12, 2019 and October 15, 2019.



Robert Jackson, P.Eng.
Project Manager / Lead Designer

A handwritten signature in black ink, appearing to read "D. Keay".

Diana Keay, MCIP, RPP
Project Coordinator / Public Liaison

1.0 Introduction

The Township of Cramahe (Township) initiated a Municipal Class Environmental Assessment (Class EA) study in August 2017 to examine required sanitary system upgrades for the Colborne Industrial Park. D.M. Wills Associates Limited (Wills) was retained to assist the Township with the Class EA planning and preliminary design process.

The Township is located in Northumberland County and borders the Municipality of Trent Hills to the North, the Municipality of Brighton to the East, the Township of Alnwick Haldimand to the West and Lake Ontario to the South. The Township has a total population of 6,073 people based on the 2011 Canadian Census.

The Study Area is located in the Village of Colborne (Colborne) which is the main urban center of the Township. Colborne is known as being an important agricultural centre as far back as the 1800's. It's location on the banks of Lake Ontario and strategic location between Toronto and Kingston make it convenient for farmers to sell their produce in larger urban markets.

Colborne is located on the 401 Highway Transportation corridor between Toronto and Kingston and is an attractive commercial / industrial center. The Township is "open for business" and is actively working to bring additional employment into the Township. In alignment with the motto "open for business", the Township developed the Cramahe Industrial Park on the south side of the Highway 401 corridor.

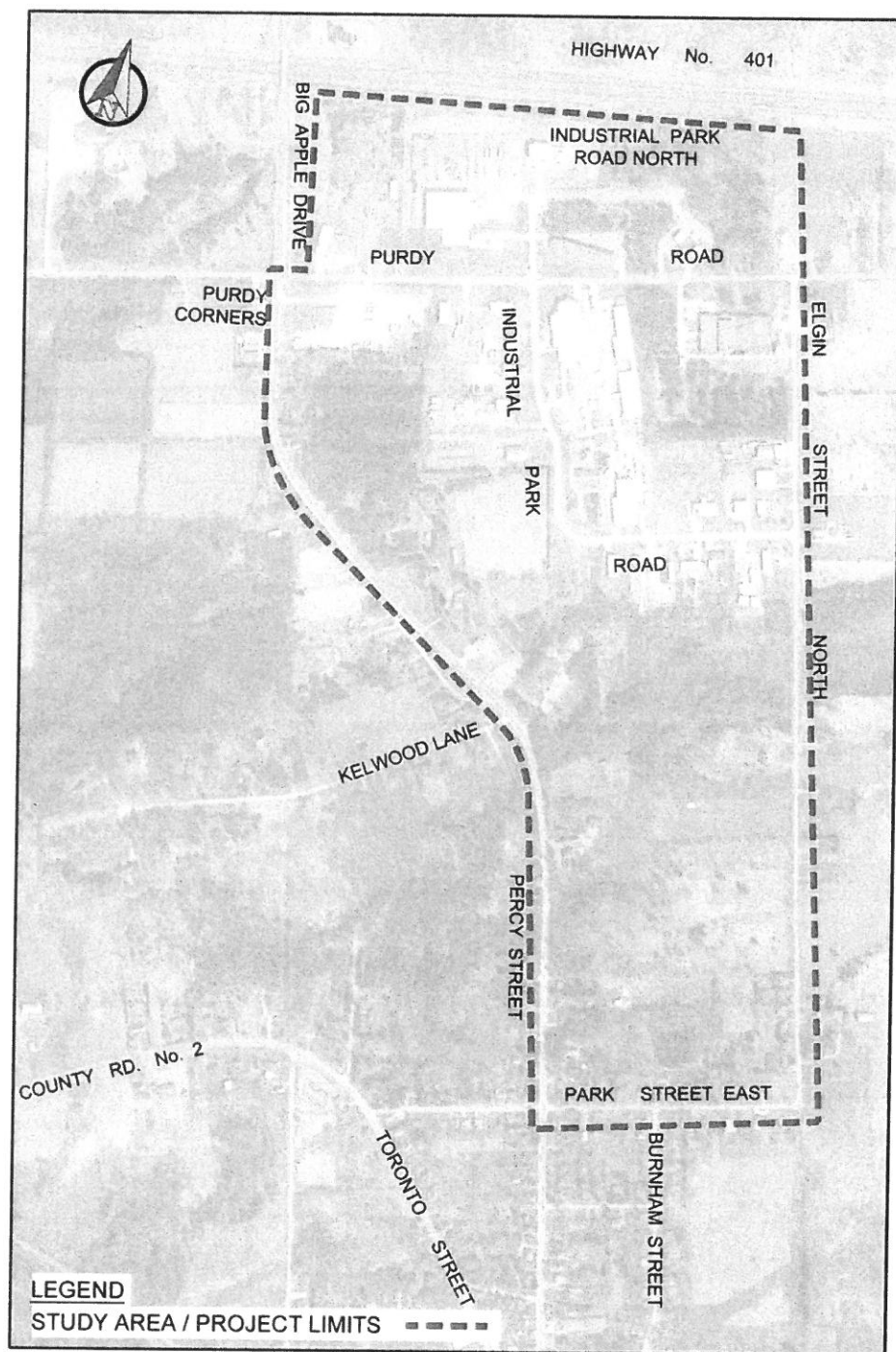
The Study Area was established based on the current sanitary system and is shown in **Figure 1**. The Study Area encompasses the Cramahe Industrial Park and areas which may be used to create additional sanitary connections from the Cramahe Industrial Park to the existing sanitary network in Colborne. The following report details the deficiencies in the existing sanitary network in the Cramahe Industrial Park and provides alternative solutions to address the existing deficiencies, as well as a consideration of the environmental, archeological and economic impacts of each alternative solution.

1.1 Report Organization

This report is intended to address the requirements of the Class EA planning and design process as outlined in the Municipal Class EA document (October 2000, as amended in 2007, 2011 and 2015) prepared by the Municipal Engineers Association.

This Class EA Report documents the planning process undertaken for the project, including stakeholder consultation activities, in determining the preferred solution to address the identified problem.

Figure 1 – Class EA Study Area



Municipal Class EA Process Overview:

- Background Information and Existing Conditions.
- Needs Assessment and Justification.
- Problem / Opportunity Statement.
- Identification of Alternative Solutions.
- General Inventory of Natural Social and Economic Environments.
- Evaluation of the Alternatives.
 - Environmental.
 - Social.
 - Economic.
- Selection of the Preferred Alternative.
- Impacts and Mitigation of the Preferred Alternative.
- Public, Stakeholder and Review Agency Consultation.
- Preferred Solution.

1.2 Project Team

The proponent for this project is the Township. Wills was retained by the Township to complete the Class EA. The Sub-consultant for the project includes Northeastern Archaeological Associates Ltd.

2.0 Municipal Class EA Process

The planning of major municipal projects or activities is subject to the Ontario Environmental Assessment Act, R.S.O. 1990, and requires the proponent to complete a Class EA, including an inventory and description of the existing environment in the area affected by the proposed activity.

The Class EA process was developed by the Municipal Engineers Association (MEA), in consultation with the Ministry of the Environment, Conservation and Parks (MECP), as an alternative method to Individual Environmental Assessments for recurring municipal projects that were similar in nature, usually limited in scale, and with a predictable range of environmental effects which were responsive to mitigating measures.

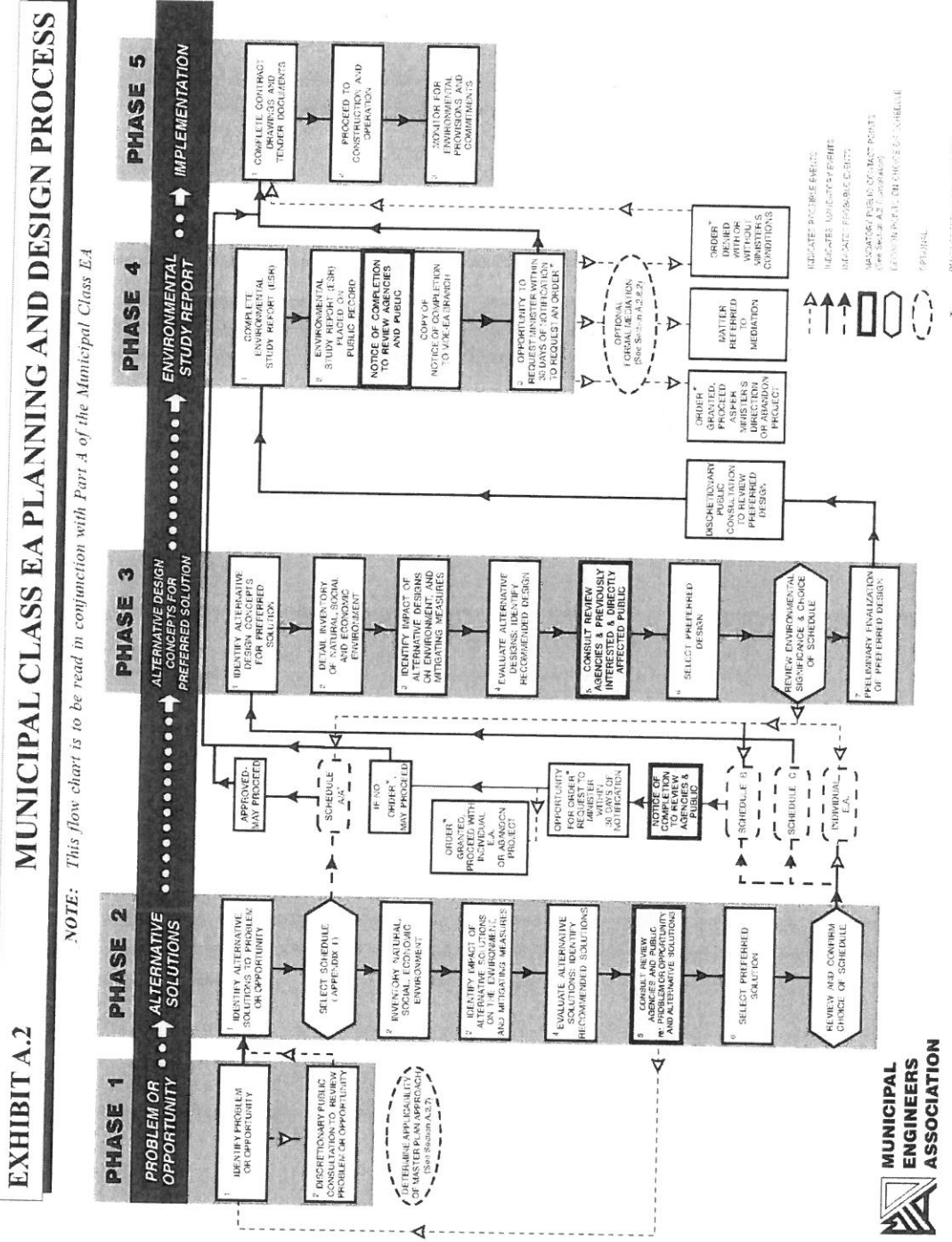
This project is proceeding based on the Class EA planning process according to the requirements and procedures outlined in the Municipal Class EA document, (October 2000, as amended in 2007, 2011 and 2015). The main components of the full planning and design process are incorporated in the following five phases:

- Phase 1** Identify the problem (deficiency) or opportunity.
- Phase 2** Identify alternative solutions to address the problem or opportunity by taking into consideration the existing environment, and establish the preferred solution taking into account public and review agency input.
- Phase 3** Examine alternative methods of implementing the preferred solution, based upon the existing environment, public and review agency input, anticipated environmental effect and methods of minimizing negative effects and maximizing positive effects.
- Phase 4** Document, in an Environmental Study Report, a summary of the rationale, and the planning, design and consultation process of the project as established through the above phases, and make such documentation available for scrutiny by review agencies and the public.
- Phase 5** Complete contract drawings and documents, and proceed to construction and operation; monitor construction for adherence to environmental provisions and commitments. Where special conditions dictate, also monitor the operation of the completed facility.

A flow chart describing the Class EA planning and design process involved in the above five (5) phases is shown in **Figure 2**. The amended Class EA process provides for the following designations of projects depending upon potential impacts:

- Schedule A** Projects are limited in scale, have minimal adverse environmental effects and include a number of municipal maintenance and operational activities. These projects are pre-approved and may proceed to implementation without following the full Class EA planning process. Schedule A projects generally include normal or emergency operational and maintenance activities.
- Schedule A+** These projects are pre-approved and may proceed to implementation without following the full Class EA planning process, although the public is to be advised prior to implementation. The purpose of Schedule A+ projects is to ensure public notification of certain pre-approved projects and allow the public an opportunity to comment to Council.
- Schedule B** Projects have the potential for some adverse environmental effects. These projects are approved upon completion of Phases 1 and 2 and subject to screening. The process involves mandatory contact with directly affected public and relevant review agencies, to ensure they are aware of the project and that their concerns are addressed. If there are no outstanding concerns, then the proponent may proceed to implementation. Schedule B projects generally include improvements and minor expansions to existing facilities.

Figure 2 – Class EA Planning and Design Process Flow Chart



Schedule C Projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the Class EA document. Schedule C projects require that an Environmental Study Report be prepared and filed for review by the public and review agencies. Schedule C projects generally include the construction of new facilities and major expansions to existing facilities.

The Class EA process also provides an appeal process to change the project status. Under the provisions of Subsection 16 of the amended EA Act, there is an opportunity under the Class EA planning process for the Minister to review the status of a project. Members of the public, interest groups and review agencies may request the Minister to require a proponent to comply with Part II of the EA Act, before proceeding with a proposed undertaking.

This is what is known as a "Part II Order" (formerly called a 'bump-up request'). The Minister determines whether or not this is necessary with the Minister's decision being final. The procedure for dealing with concerns which may result in the Minister, by order, requiring the proponent to comply with Part II of the Act is outlined in the Municipal Class EA document.

The Municipal Class EA document identifies various potential sanitary upgrade / activities associated with the Colborne Industrial Park as a Schedule B project due to the following criteria:

"Establish, extend or enlarge a sewage collection system and all works necessary to connect the system to an existing sewage outlet where such facilities are not in an existing road allowance or an existing utility corridor."

"Water crossing by a new or replacement sewage facility except for the use of Trenchless Technology for water crossings."

And

"Construct new pumping station or increase pumping station capacity by adding or replacing equipment and appurtenances, where new equipment is located in a new building or structure."

As such, the Class EA for required sanitary system upgrades to the Colborne Industrial Park Area has proceeded as a Schedule B activity under the Class EA process, which requires completion of Phases 1 and 2.

3.0 Existing Conditions

This section provides the characteristics of the Study Area in order to provide a baseline description of the area. This section also provides context for site identification and evaluation. A baseline was established in order to be able to assess the impacts of each identified alternative solution.

3.1 Natural Environment

In order to assess the natural environment of the Study Area, field investigations were completed by Wills' biologists. The field investigations have been compiled in a report entitled "Colborne Industrial Park Sanitary Sewer Existing Conditions Assessment" which is included in **Appendix A**.

The following assessment tasks were conducted to establish a baseline of the existing conditions at the Study Area.

- A search for federal and provincial Species at Risk (SAR) in the Study Area.
- Background information collection on aquatic species present in Colborne Creek from the Ministry of Natural Resources and Forestry (MNRF).
- The completion of site assessments of the alignments where the following information was noted:
 - Terrestrial Habitat;
 - Incidental wildlife present;
 - Watercourses and aquatic habitat within or crossing the Study Area; and,
 - SAR.

The following provides a summary of the existing conditions in the Study Area. A more detailed assessment of the alternative solutions sites was conducted following the identification of specific sites for each alternative solution. These findings are outlined in **Section 6.1 Natural Environment Considerations**.

3.1.1 Species at Risk

A geographical search for rare species and associated habitat was conducted using the MNRF's Natural Heritage Information Centre (NHIC) database. A search of the NHIC 1 km square for the Study Area was completed for provincial SAR designation. No results were generated for any of alignment alternatives. Additionally, the MNRF was contacted for any SAR found in the area. The MNRF provided a list of SAR occurrences in the immediate (1 km) and general (5 km) area of the proposed works and attached as **Appendix A**.

The Fisheries and Oceans Canada (DFO) mapping for the area covered by Lower Trent Conservation was reviewed for any aquatic SAR listed under the Species at Risk Act (SARA). No listed species were noted for this watercourse.

3.1.2 Fisheries Information

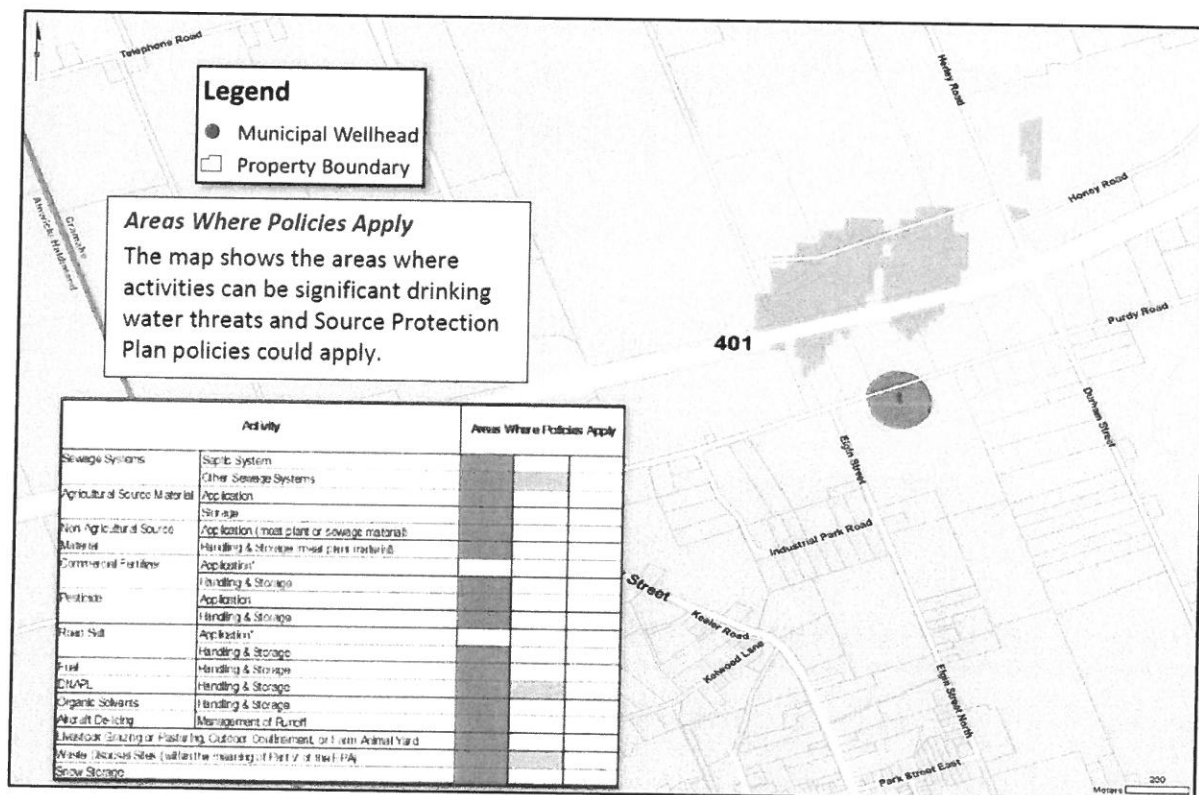
The MNRF was also contacted for any fisheries information for Colborne Creek and its tributaries within the Study Area. The MNRF provided a fish species list for this watercourse listed in Table 1 of **Appendix A**.

Both the north and south headwater tributaries appear to be associated with an unevaluated wetland that drains an area east of Elgin Street North. They join approximately 350 m downstream of Percy Street. This combined tributary flows into the main Colborne Creek just west of the Town of Colborne, approximately 1.4 km further downstream. Since the fish species list is for the entire watercourse, it can be assumed that the majority of species would be found in the lower reaches (downstream of Percy Street) where the Colborne Creek is larger, well defined and provides suitable habitat.

3.1.3 Source Water Protection

The municipal well for Colborne is located on Purdy Road. The source water protection area for the municipal well extends into the project boundaries as indicated in **Figure 3**. The full source water protection fact sheet for the Colborne municipal well is included in **Appendix A**.

Figure 3 – Source Water Protection



3.2 Cultural Environment

A Stage 1 Archaeological Assessment was completed for the Study Area by Northeastern Archaeological Associates Ltd. The full report is attached as **Appendix B**.

The Study Area is located in the Iroquois Plain physiographic region of southern Ontario (Chapman and Putman 1984). A search of the Ontario Archaeological Sites Database (maintained by the Ministry of Tourism, Culture, and Sport) was carried out for the Stage 1 Archaeological Assessment. The results of this database search indicated that there are no registered sites located in the Study Area or within a radius of 1 km. The database search indicated that the closest registered sites are more than 25 km away, near Weller's Bay. The lack of recorded sites nearby may be due to a lack of archaeological research in the area and does not preclude the possibility of historic or pre-contact cultural heritage resources being found in the Study Area.

A more detailed assessment of the areas associated with the alternative solutions was conducted following the identification of Study Area for each alternative solution. These findings are outlined in **Section 6.4 Social Considerations**.

3.3 Economic Environment

The Township is one of seven lower-tier municipalities that form the County of Northumberland. The Township was established by the amalgamation of the Township of Cramahe and the Village of Colborne. The Township is represented by a Mayor, Deputy Mayor, and three (3) Councilors. Colborne is the largest population center in the Township. The 2016 Canadian Federal Census recorded the population of Colborne at 1,577 persons.

The Township is actively working to attract and retain business. The Township has created a "Development Team" that works with business owners to expand their business and to attract new business. The Study Area is designated Employment Area and Rural as provided in **Figure 4**. The existing sanitary sewer system in the employment area is not sufficient to allow for additional development within the currently designated employment lands. This Study has been initiated in part to allow for further industrial development in the areas designated for employment.

3.4 Planning Considerations

Cramahe's Official Plan (OP), was adopted by Council in 1997 and approved by the Ministry of Municipal Affairs and Housing on March 26, 1998 with modifications. The purpose of the official plan is to set out broad and general policy direction and guidance on land use planning matters within the Township. The OP is currently undergoing a five (5) year update to bring the OP into compliance with current provincial legislation and policy. **Figure 5** illustrates the location of the Colborne Municipal Drinking System and the associated Wellhead Protection Area - A (WHPA - A) within Cramahe as provided in the Trent Source Protection Plan. Alternatives were evaluated based on current planning conditions and the potential for expansion of servicing options for future capacity.

BASE FEATURES

- MUNICIPAL BOUNDARY
- PROVINCIAL HIGHWAY
- COUNTY ROAD
- TOWNSHIP ROAD
- PRIVATE ROAD
- UNOPENED ROAD ALLOWANCE
- RAILWAY
- WATERCOURSE
- REGULATORY FLOODLINE (LTICAD)
- FILL LINE (LTICAD)
- ONTARIO HYDRO LINE
- PIPELINE

LEGEND

- RURAL
- AGRICULTURAL
- HAULET
- COLUMBIAN PERIPHERY AREA
- ESTATE RESIDENTIAL
- RESORT
- COMMERCIAL
- EMPLOYMENT AREAS
- DISPOSAL INDUSTRIAL
- AGGREGATE RESOURCE
- RECREATION-CONSERVATION
- ENVIRONMENTAL PROTECTION
- PROVINCIAL SIGNIFICANT WETLAND
- DYNAMIC BEACH AREA
- WASTE DISPOSAL ASSESSMENT AREA
- HISTORIC SITE
- ANCI BOUNDARY
- ONION IN SECTION 2400

SCALE: 1:10000

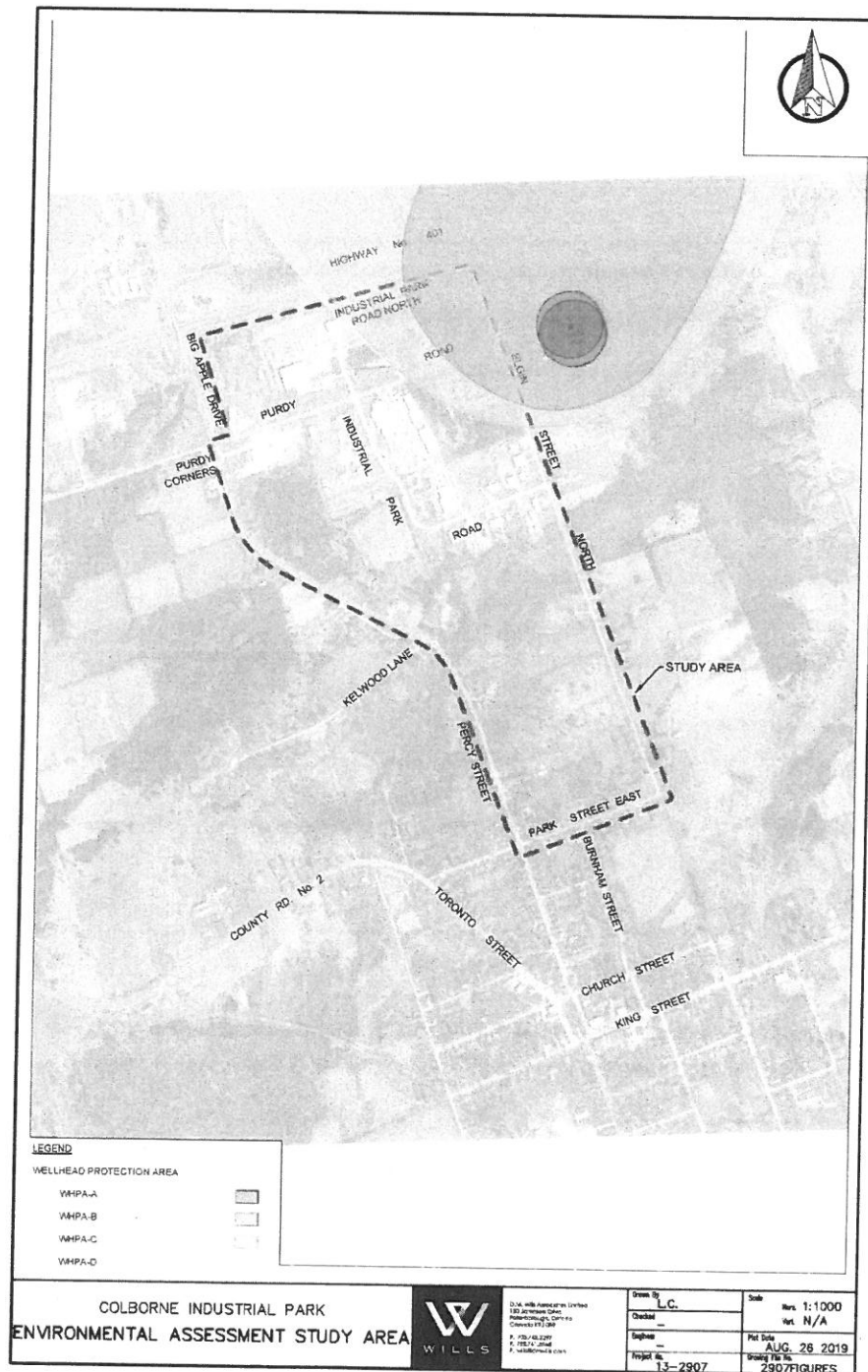
DATE: 1996

REVISIONS:

- DEC. 2005
- REVISED DEC. 2004
- REVISED DEC. 2003
- REVISED JAN. 2003
- REVISED NOV. 2002
- REVISED OCT. 1997
- REVISED DEC. 1996
- REVISED SEPTEMBER, 1996

OTHER A. JOSEPH AND ASSOCIATES PLANNING CONSULTANTS

Figure 5 – Study Area imposed on WHPA Mapping



3.5 Existing Sanitary Servicing within the Study Area

A Small Diameter Sanitary Gravity Pipe (SDGP) network currently services part of the existing Industrial Park. The SDGP system is propriety technology designed by Clearford Water Systems (Clearford) which is headquartered in Ottawa, Ontario. The SDGP uses the following technology to convey wastewater to the Wastewater Treatment Plant (WWTP):

- Underground tanks that receive raw sewage from each connected source. Underground tanks are meant to collect the majority of the solid portion of the wastewater generated by each user and release effluent by gravity to the sanitary pipe network.
- SDGP's that convey the liquid portion of wastewater and approximately 25% of the suspended solids to the existing Colborne WWTP through a connection to the conventional sanitary network in Colborne on Percy Street.

The existing sanitary pipe network within the Colborne Industrial Park was designed and installed in 2005. The existing network is shown in **Figure 6**.

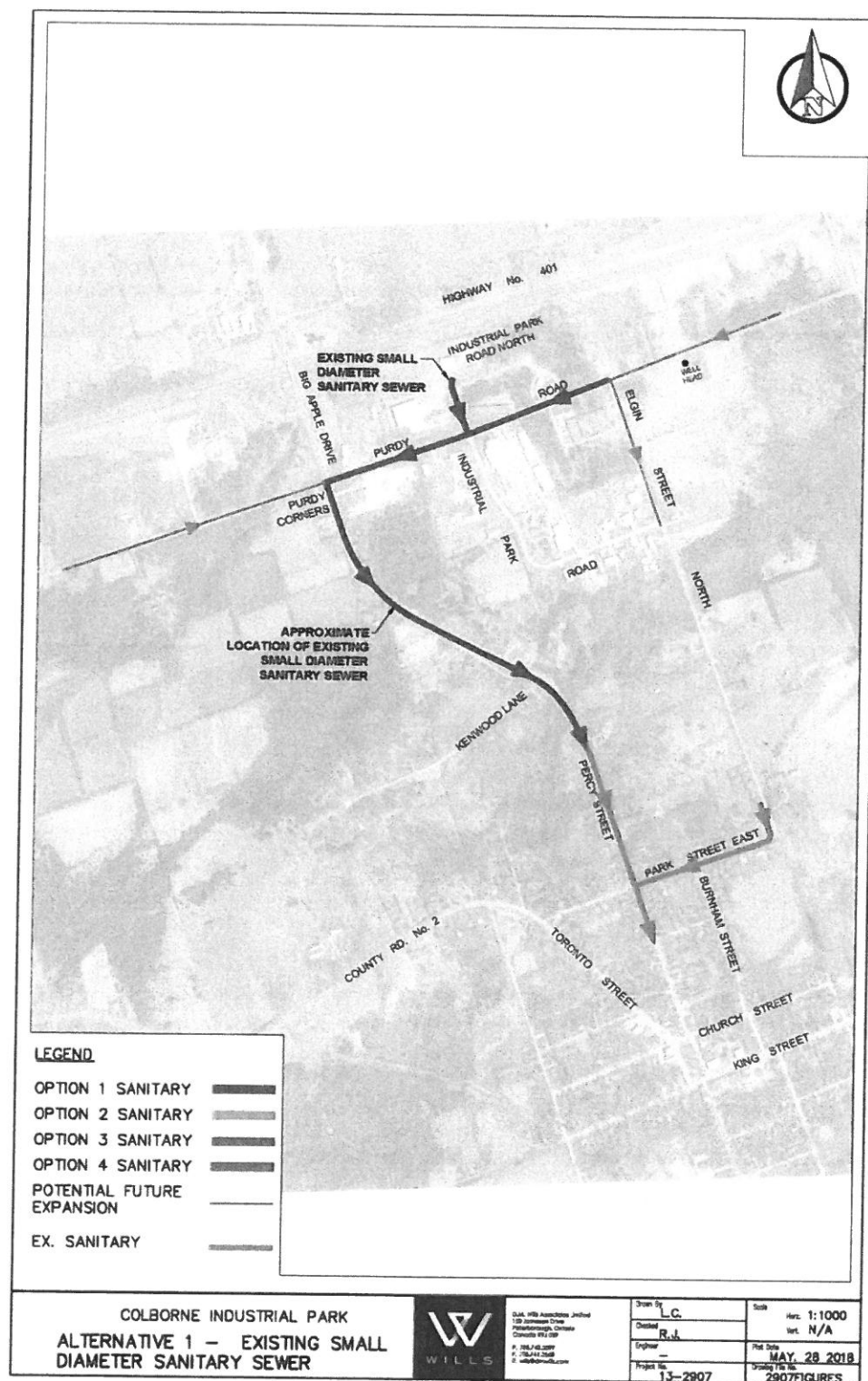
In 2017, Clearford was contracted by the Township to complete a report to verify the remaining capacity of the existing SDGP system; the report is located in **Appendix C**. Based on the report, the existing SDGP sizes are as follows:

- 100 mm Ø (nominal); Purdy Road.
- 150 mm Ø (nominal); Percy Street.

The following industries and businesses are connected to the SDGP:

- 301 Big Apple Drive; Ultramar.
- 289 Big Apple Drive; Tim Hortons.
- 292 Big Apple Drive; Durham Transport.
- 32 Industrial Park Road; Northumberland Waste Transfer Station.
- 116 Industrial Park Road; Ontario Agri-Food Venture Center / Real Flex Solar.
- 232 Purdy Road; Cramahe Fire / EMS Building.
- 209 Purdy Road; Cam Tran.
- 263 Purdy Road; CCC Plastics.
- 188 Purdy Road; Anixter Power Solutions.

Figure 6 – Existing Small Diameter Sanitary Sewer



The Clearford report concluded:

"Based on Compiled flow information and the sewer hydraulic analysis, it appears that most segments of the sewer system are nearing their design peak flow conveyance capacity."

"For the estimated average flow conditions, most segments appear to have 10-20% remaining capacity except for segment B-D along Purdy Road which may have reached or exceeded its capacity. "

The Clearford report made several recommendations, including the following:

"Expansion of the Small Bore Sanitary (pipe) servicing in the Industrial Park would provide an opportunity to redesign the existing system, add additional capacity to accommodate future growth, and provide full sewer servicing to the entire area."

Based on the recommendations and conclusions of the Clearford Report, the existing SDGP is reaching or exceeding its sanitary conveyance design capacity. An expansion of the existing system alone would not add additional capacity to the existing system and a redesign of the SDGP would be required to expand sanitary service to the entire industrial zoned area.

3.6 Existing Conventional Gravity Sewer Pipe and Waste Water Treatment Plant

The Colborne sanitary sewer system collects and conveys wastewater flows to the Cramahe Township Wastewater Treatment Plant (WWTP), which has an environmental compliance approval average effluent objective limit of 1,745 m³/day. The average daily flow received by the WWTP is 1,264.1 m³/day based on the 2016 / 2017 sanitary flow records from the WWTP. It was noted that during dry periods the average flow of the WWTP can be as low as 700 m³/day which indicates that there are large amounts of inflow and infiltration from groundwater and stormwater entering the sanitary network. At present, the Township is undertaking investigations into the sources of inflow and infiltration with the goal of reduction. The investigations are being completed in separate projects.

The SDGP system connects to the Colborne conventional diameter gravity sewer pipe on Percy Street, south of Kelwood Lane (see **Figure 6**). The total Colborne sanitary system is just over 15,000 m in cumulative length and is illustrated in **Figure 7**.