

**MUNICIPALITY OF PORT HOPE**

**WATER AND WASTEWATER  
RATE STUDY**

February 12, 2010



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 **Planning for growth**

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- A WATER AND WASTEWATER SYSTEM INVENTORY DATA
- B DETAILED WATER AND WASTEWATER RATE CALCULATIONS

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# 1. INTRODUCTION

# 1. INTRODUCTION

## 1.1 Background

The Municipality of Port Hope has a present population of approximately 16,700 which is largely served by municipal water and wastewater systems. The Municipality provides water and wastewater services to residents of Ward 1 through surface-based municipal systems. There are currently 4,404 customers receiving water services and 4,164 customers receiving wastewater services. The water customers are generally metered with fees imposed on a consumptive basis with quarterly administrative base charges.

The water and wastewater rates presently in effect are as follows:

### Quarterly Base Charge

| Meter Size | Quarterly Base Charge (\$) |            |
|------------|----------------------------|------------|
|            | Water                      | Wastewater |
| 5/8"       | 13.80                      | 7.88       |
| 3/4"       | 16.55                      | 9.46       |
| 1"         | 21.86                      | 12.00      |
| 1 1/4"     | 27.32                      | 15.00      |
| 1 1/2"     | 32.78                      | 18.00      |
| 2"         | 43.71                      | 24.00      |
| 3"         | 65.57                      | 36.00      |
| 4"         | 87.43                      | 48.00      |
| 6"         | 131.14                     | 72.00      |
| 8"         | 174.86                     | 100.86     |

### Consumptive Charge

|   | Water  | Wastewater |
|---|--------|------------|
| First Block - 0-80m <sup>3</sup> (\$/m <sup>3</sup> )                   | \$0.87 | \$0.79     |
| Second Block - 81m <sup>3</sup> -340m <sup>3</sup> (\$/m <sup>3</sup> ) | \$0.96 | \$0.87     |
| Third Block - Greater than 340 m <sup>3</sup> (\$/m <sup>3</sup> )      | \$1.08 | \$0.99     |

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## 1.2 Study Process

Watson & Associates Economists Ltd. was retained by the Municipality of Port Hope to undertake a water and wastewater rate study. The objectives of the study and the steps involved in carrying out this assignment are summarized below:

- Identify the current and forecast system demands (i.e. water consumption) by system and user profile.
- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications.
- Identify potential methods of cost recovery from the capital needs listing. These recovery methods may include other statutory authorities (e.g. Development Charges, *Municipal Act*, etc.) as an offset to recovery through the water and wastewater rates.
- Identify existing operating costs by component and estimate future operating costs over the forecast period.
- Analyze lifecycle reserve/reserve fund requirements to provide financial sustainability.
- Provide recommendations regarding user fee policies and rates to recover the full costs of water and wastewater services.
- Undertake a public meeting to present the findings of the study.

In approaching this study, the following analysis is provided herein:

Chapter 1: Introduction

Chapter 2: Capital Infrastructure Needs for the Municipality of Port Hope Water and Wastewater systems

Chapter 3: Lifecycle Costs for Water and Wastewater systems

Chapter 4: Capital Cost Financing

Chapter 5: Operating Expenses and Revenues Forecast

Chapter 6: Development of Rate Options

Chapter 7: Analysis of Rate and Policy Options

Chapter 8: Recommendations

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### 1.3 Regulatory Changes in Ontario

Significant regulatory changes have been made in Ontario over the past few years. These changes arise as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation include:

- watershed management and source protection
- quality management
- preventative maintenance
- research and development
- new performance standards
- sustainable asset management
- lifecycle costing.

The legislation that will most impact on municipal water and wastewater rates is the *Sustainable Water and Sewage Systems Act* (SWSSA) and the *Safe Drinking Water Act* (SDWA). SWSSA was enacted in 2002; however, it has not been implemented pending the approval of its regulations. Water financial plan regulations were introduced under the SDWA in August, 2007 which requires similar principles be introduced. The following sections describe these changes.

### 1.4 Summary of the *Sustainable Water and Sewage Systems Act*

As noted earlier, the *Sustainable Water and Sewage Systems Act* (SWSSA) was passed on December 13, 2002. The intent of the Act is to introduce the requirement for municipalities to undertake an assessment of the “full cost” of providing their water and the wastewater services. It is noted that, at the time of writing, the regulations, which accompany the Act, have not been issued. In total, there are 40 areas within the Act to which the Minister may make Regulations.

Full costs for water service is defined in subsection 3(7) of the Act and includes “source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and such other costs which may be specified by regulation.” Similar provisions are made for

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wastewater services in subsection 4(7) respecting the “collecting, treating or discharging waste water.”

The Act will require the preparation of two reports for submission to the Ministry of the Environment (or such other member of the Executive Council as may be assigned the administration of this Act under the Executive Council Act). The first report is on the “full cost of services” and the second is the “cost recovery plan.” Once these reports have been reviewed and approved by the Ministry, the municipality will be required to implement the plans within a specified time period.

In regard to the “Full Cost of Services” report, the municipality (deemed a regulated entity under the Act) must prepare and approve a report concerning the provision of water and sewage services. This report must include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems and address the full cost of providing the services (other matters may be specified by the regulations) along with the revenue obtained to provide them. A professional engineer must certify the inventory and management plan portion of the report. The municipality’s auditor will be required to provide a written opinion on the report. The report must be approved by the municipality and then be forwarded to the Ministry along with the engineer’s certification and the auditor’s opinion. The regulations will stipulate the timing for this report.

The second report is referred to as a “Cost Recovery Plan” and will address how the municipality intends to pay for the full costs of providing the service. The regulations may specify limitations on what sources of revenue the municipality may use. The regulations may also provide limits as to the level of increases any customer or class of customer may experience over any period of time. Provision is made for the municipality to implement increases above these limits however ministerial approval would be required first. Similar to the first report, the municipal auditor must provide a written opinion on the report prior to Council’s adoption, and this opinion must accompany the report when submitted to the Province.

The Act provides the Minister the power to approve or not approve the plans. If the Minister is not satisfied with the report or if a municipality does not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan will be recovered from the municipality. As well, the Minister may direct two or more regulated municipalities to prepare a

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joint plan. This joint plan may be directed at the onset or be directed by the Minister after receiving the individual plans from the municipalities.

The Minister also has power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may also order a regulated entity to do or refrain from doing such things as the Minister considers advisable to ensure that the entity pays the full cost of providing the services to the public.

Once the plans are approved and in place, the municipality will be required to submit progress reports. The timing of these reports and the information to be contained therein will be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities may also revise the plans if they deem the estimate does not reflect the full cost of providing the services, as a result of a change in circumstances, regulatory or other changes that affect their plan, etc. The municipality must then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

As of the time of writing, the regulations to implement this Act have not been passed; hence the Act will not be in effect until these regulations are passed. As discussed in Section 1.5, regulation has been introduced by the Province in this regard under the *Safe Drinking Water Act*.

## **1.5 Financial Plans Regulation**

On August 16, 2007, the MOE passed O.Reg 453/07 which requires the preparation of financial plans for water systems. The MOE has also provided a Financial Plan Guidance Document to assist municipalities in preparing the plans. A brief summary of the key elements of the regulations is provided below:

- The financial plan will represent one of the five key elements required for the Municipality to obtain its Drinking Water License.
- The plan is to be completed by July 1, 2010 (may be later if Drinking Water License is to be obtained at a later date).
- The financial plans shall be for a period of at least six years but longer planning horizons are encouraged.

- As the regulation is under the *Drinking Water Act*, the preparation of the plan is mandatory for water and encouraged for wastewater.
- The plan is considered a living document (i.e. will be updated as annual budgets are prepared) but will need to be undertaken at a minimum every five years.
- The regulation requires the forecast and preparation of Statement of Operations, Statement of Financial Position and Statement of Cash flows, on a full accrual basis. As the financial plans will have to be approved by resolution of Council it will be prudent to undertake a financial plan sustainability assessment on a cash basis (i.e. format for municipal budgets). These plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage and corresponding calculation of rates.
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's web site. Notice of the availability of this information must be provided to system users.
- The financial plans are to be approved by Resolution of the Council or governing body.

In general, the financial principles of the draft regulations follow the intent of SWSSA to move municipalities towards financial sustainability. However, many of the prescriptive requirements have been removed (e.g. preparation of two separate documents for Provincial approval, auditor opinions, engineer certifications, etc.).

A Guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") has been developed to assist municipalities in understanding the Province's direction and provides a detailed discussion on possible approaches to sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.

Principle #2: An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.

Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.

- Principle #4: Life-cycle planning with mid-course corrections is preferable to planning over the short-term, or not planning at all.
- Principle #5: An asset management plan is a key input to the development of a financial plan.
- Principle #6: A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.
- Principle #7: Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.
- Principle #8: Financial Plans are “living” documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.
- Principle #9: Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal council.

The preparation of this study document is consistent with the principles of the SWSSA and O.Reg 453/07. The full accrual translation of the financial plan, as required under O.Reg 453/07, will be provided to the Municipality under separate cover once the financial plan is approved by Council.

## **1.6 Forecast Growth and Servicing Requirements**

Information on the existing number and profile of water and wastewater customers and existing billable water consumption was obtained from the Municipality. For 2009, it is estimated that there is approximately 4,404 water customers and 4,164 wastewater customers within the service area of the Municipality.

To provide for a forecast of municipal water and wastewater service demand, the Municipality's 2009 DC Background Study growth forecast was consulted for the municipally serviced area. Discussions with staff revealed that the anticipated rate of residential development has lagged

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the anticipated average annual rate of approximately 85 units per year. Acknowledging these circumstances, the annual rate of development is being phased-in to 2020. With respect to non-residential development (i.e. commercial, institutional and industrial uses), an 8% average annual growth rate has been assumed.

When developing a rate forecast, the costs of maintaining and operating the systems must be compared with annual consumption levels in order to derive a rate. To forecast future water consumption volumes, the Municipality supplied historic billing records which provided the basis for determining annual consumption estimates by customer type (i.e. residential, non-residential) and consumption block. These average historic consumption estimates provide a realistic source to forecast future system use, in that they have been averaged over multiple years to adjust for seasonal variation in usage and reflect the underlying profile of users on the respective systems. However, it is important to note that total consumption levels have decreased significantly from of 2.2 million m<sup>3</sup> in 2006 to 1.6 million m<sup>3</sup> in 2009 (27% decrease) due to the loss of a large consuming user in 2008. Given that the decrease in consumption is the result of a lost account rather than simply a change in consumer behaviour, it is assumed that the missing volumes will not be recaptured within the remaining customer base. As such, the calculation of average annual consumption volume is based on volumes witnessed during the years since the decrease (i.e. 2008 & 2009). Moreover, non-residential average consumption has been adjusted to remove large consuming users. These average annual consumption volumes have been applied to the forecast water and wastewater customer profile to arrive at anticipated consumption volumes.

Consumption has also been analysed in relation to the Municipality's current volumetric rate structure (i.e. increasing block). The increasing block rate structure was implemented with the intent of promoting water conservation efforts through increased pricing beyond typical volume levels. As such, annual consumption blocks were established for small residential customers 0 - 80m<sup>3</sup>, typical residential customers 80 - 340m<sup>3</sup>, and large consuming users over 340m<sup>3</sup>. Under this rate structure, the majority of customers would be categorized in the second block (i.e. typical residential customers). Upon implementation, these thresholds were imposed on a quarterly basis which had the impact of producing annual thresholds of 0 - 320m<sup>3</sup>, 320 - 1,360m<sup>3</sup>, and over 1,360m<sup>3</sup>. As a result, 88% of the customers are being billed entirely within the first consumption block, thereby reducing the anticipated billing revenue and removing the desired conservation incentives. In response, the consumption block thresholds have been

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reset at 0 - 20m<sup>3</sup> per quarter (or 80m<sup>3</sup> annually) for the first block, 21 - 60m<sup>3</sup>/quarter (81 - 240m<sup>3</sup> annually) for the second block, and consumption greater than 60m<sup>3</sup>/quarter (greater than 240m<sup>3</sup> annually) for the third block. When applied to the existing customer profile, the following allocation results:

- 27% of customers within the first block (0 - 20m<sup>3</sup>/quarter);
- 51% of customers within the second block (21 - 60m<sup>3</sup>/quarter); and
- 22% of customers within the third block (greater than 60m<sup>3</sup>/quarter).

Table 1-1 summarizes the water and wastewater customer forecast and the anticipated service demands in cubic meters for the period 2010-2020.

**TABLE 1-1**  
**MUNICIPALITY OF PORT HOPE**  
**Residential and Non-Residential User and Consumption Forecast**  
**(2009 Actual and 2010 - 2020 Forecast)**

| Description                         | Actual<br>2009   | WATER SYSTEM - Forecast of Water System Users and Total Water Consumption (in m3) |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |  |  |  |  |  |  |
|-------------------------------------|------------------|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|--|--|--|--|--|--|--|
|                                     |                  | 2010  | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |  |  |  |  |  |  |  |  |
| <b>System Users</b>                 |                  |   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |  |  |  |  |  |  |
| Residential                         | 4,147            | 4,170   | 4,225            | 4,300            | 4,385            | 4,470            | 4,555            | 4,640            | 4,725            | 4,810            | 4,895            | 4,980            |  |  |  |  |  |  |  |  |
| Non-Residential                     | 257              | 260   | 262              | 264              | 266              | 268              | 270              | 272              | 274              | 276              | 278              | 280              |  |  |  |  |  |  |  |  |
| <b>Total System Users</b>           | <b>4,404</b>     | <b>4,428</b>  | <b>4,485</b>     | <b>4,562</b>     | <b>4,649</b>     | <b>4,736</b>     | <b>4,823</b>     | <b>4,910</b>     | <b>4,997</b>     | <b>5,084</b>     | <b>5,171</b>     | <b>5,258</b>     |  |  |  |  |  |  |  |  |
| <b>Residential Equivalent Users</b> | <b>4,714</b>     | <b>4,738</b>  | <b>4,795</b>     | <b>4,872</b>     | <b>4,959</b>     | <b>5,046</b>     | <b>5,133</b>     | <b>5,220</b>     | <b>5,307</b>     | <b>5,394</b>     | <b>5,481</b>     | <b>5,568</b>     |  |  |  |  |  |  |  |  |
| <b>Annual Consumption</b>           |                  |   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |  |  |  |  |  |  |
| 0-20                                | 278,190          | 284,670   | 290,830          | 297,790          | 304,750          | 311,710          | 318,670          | 325,630          | 332,590          | 339,550          | 346,510          | 353,470          |  |  |  |  |  |  |  |  |
| 21-60                               | 325,496          | 338,456   | 350,776          | 364,696          | 378,616          | 392,536          | 406,456          | 420,376          | 434,296          | 448,216          | 462,136          | 476,056          |  |  |  |  |  |  |  |  |
| 60-and greater                      | 1,006,478        | 1,011,158   | 1,014,278        | 1,017,398        | 1,020,518        | 1,023,638        | 1,026,758        | 1,029,878        | 1,032,998        | 1,036,118        | 1,039,238        | 1,042,358        |  |  |  |  |  |  |  |  |
| <b>Total Consumption</b>            | <b>1,610,165</b> | <b>1,617,485</b>  | <b>1,655,885</b> | <b>1,679,885</b> | <b>1,703,885</b> | <b>1,727,885</b> | <b>1,751,885</b> | <b>1,775,885</b> | <b>1,799,885</b> | <b>1,823,885</b> | <b>1,847,885</b> | <b>1,871,885</b> |  |  |  |  |  |  |  |  |

| Description                         | Actual<br>2009   | WASTEWATER SYSTEM - Forecast of Wastewater System Users and Total Water Consumption by Wastewater Users (in m3) |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |  |  |  |  |  |  |
|-------------------------------------|------------------|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|--|--|--|--|--|--|--|
|                                     |                  | 2010  | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |  |  |  |  |  |  |  |  |
| <b>System Users</b>                 |                  |   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |  |  |  |  |  |  |
| Residential                         | 3,933            | 3,956   | 4,011            | 4,086            | 4,171            | 4,256            | 4,341            | 4,426            | 4,511            | 4,596            | 4,681            | 4,766            |  |  |  |  |  |  |  |  |
| Non-Residential                     | 231              | 238   | 240              | 242              | 244              | 246              | 248              | 250              | 252              | 254              | 256              | 258              |  |  |  |  |  |  |  |  |
| <b>Total System Users</b>           | <b>4,164</b>     | <b>4,194</b>  | <b>4,251</b>     | <b>4,328</b>     | <b>4,415</b>     | <b>4,502</b>     | <b>4,589</b>     | <b>4,676</b>     | <b>4,763</b>     | <b>4,850</b>     | <b>4,937</b>     | <b>5,024</b>     |  |  |  |  |  |  |  |  |
| <b>Residential Equivalent Users</b> | <b>4,474</b>     | <b>4,504</b>  | <b>4,561</b>     | <b>4,638</b>     | <b>4,725</b>     | <b>4,812</b>     | <b>4,899</b>     | <b>4,986</b>     | <b>5,073</b>     | <b>5,160</b>     | <b>5,247</b>     | <b>5,334</b>     |  |  |  |  |  |  |  |  |
| <b>Annual Consumption</b>           |                  |   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |  |  |  |  |  |  |
| 0-20                                | 227,545          | 229,465   | 234,025          | 240,185          | 247,145          | 254,105          | 261,065          | 268,025          | 274,985          | 281,945          | 288,905          | 295,865          |  |  |  |  |  |  |  |  |
| 21-60                               | 255,851          | 259,691   | 268,811          | 281,131          | 295,051          | 308,971          | 322,891          | 336,811          | 350,731          | 364,651          | 378,571          | 392,491          |  |  |  |  |  |  |  |  |
| 60-and greater                      | 861,948          | 866,628   | 869,748          | 872,868          | 875,988          | 879,108          | 882,228          | 885,348          | 888,468          | 891,588          | 894,708          | 897,828          |  |  |  |  |  |  |  |  |
| <b>Total Consumption</b>            | <b>1,345,345</b> | <b>1,352,665</b>  | <b>1,369,465</b> | <b>1,391,065</b> | <b>1,415,065</b> | <b>1,439,065</b> | <b>1,463,065</b> | <b>1,487,065</b> | <b>1,511,065</b> | <b>1,535,065</b> | <b>1,559,065</b> | <b>1,583,065</b> |  |  |  |  |  |  |  |  |

Note: consumption forecast based on interval per quarter.

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## **2. CAPITAL INFRASTRUCTURE NEEDS**

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## 2. CAPITAL INFRASTRUCTURE NEEDS

### 2.1 Capital Forecast

Capital forecasts have been provided for the water and wastewater systems in Tables 2-1 and 2-2. The forecasts were developed based on the Municipality's 2010 Capital Budget, the 2009 Development Charges Background Study, and infrastructure replacement needs generated through a lifecycle assessment of existing infrastructure (i.e. replacement needs based on useful life expectancy of existing infrastructure). With respect to the lifecycle replacement needs, the benchmark capital cost estimates were based on the Municipality's PSAB 3150 tangible capital asset data. Capital asset inventory data for water and wastewater systems is included in detail in Appendix A of this report. The anticipated capital needs for the 2010-2020 forecast period total \$14.4 million for the water system and \$51.9 million for the wastewater system in current dollars (i.e. inflated costs<sup>1</sup>). A brief description of each table is provided below:

#### **Table 2-1 - Water System Capital Forecast**

- Watermain replacement growth related - \$8.9 million
- Watermain replacement lifecycle needs – \$2.7 million
- Water treatment growth related - \$0.9 million
- Water treatment lifecycle needs - \$1.6 million
- Vehicles and equipment - \$0.3 million

#### **Table 2-2 Wastewater System Capital Forecast**

- Sewermain replacement growth related - \$1.4 million
- Sewermain replacement lifecycle needs – \$11.7 million
- Sewage treatment growth related - \$38.5 million
- Sewage treatment lifecycle needs - \$0.01 million
- Vehicles and equipment - \$0.3 million

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<sup>1</sup> The capital needs have been inflated using the average historic Non-Residential Building Construction Price Index (NRBCPI) for the period 1988 – 2009 – i.e. 3.14%.

TABLE 2-1  
MUNICIPALITY OF PORT HOPE  
SUMMARY - Long-Term Capital Forecast for Water Related Assets  
2010-2020  
Inflated \$

| Project Description                                    | TOTAL             | 2010             | 2011          | 2012           | 2013           | 2014           | 2015             | 2016             | 2017             | 2018             | 2019           | 2020             |
|--|-------------------|------------------|---------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|----------------|------------------|
| <b>Watermain Replacement - (Non-DC)</b>                |                   |                  |               |                |                |                |                  |                  |                  |                  |                |                  |
| Cavan/Highland-Jocelyn reconstruction                  | 1,361,691         | -                | -             | -              | -              | -              | -                | -                | -                | -                | -              | 1,361,691        |
| Cavan/Walton-Highland reconstruction                   | 1,203,503         | -                | -             | -              | -              | -              | -                | 1,203,503        | -                | -                | -              | -                |
| Ontario/Oxford-Orchard wm rehab                        | 192,023           | -                | -             | -              | -              | -              | -                | -                | -                | 192,023          | -              | -                |
| Mill/Madison-Peter wm                                  | 496,495           | -                | -             | -              | -              | -              | -                | -                | 496,495          | -                | -              | -                |
| Mill/Dorset-10 m south wm rehab                        | 128,016           | -                | -             | -              | -              | -              | -                | -                | -                | 128,016          | -              | -                |
| Hope/Howard-Beamish wm rehab                           | 217,627           | -                | -             | -              | -              | -              | -                | -                | -                | 217,627          | -              | -                |
| Ridout/Toronto-Bramley wm rehab                        | 256,031           | -                | -             | -              | -              | -              | -                | -                | -                | 256,031          | -              | -                |
| Peter/Zircatec-Hamilton wm rehab                       | 438,817           | -                | -             | -              | 438,817        | -              | -                | -                | -                | -                | -              | -                |
| Trefusis/Fraser-Perichal wm rehab                      | 310,309           | -                | -             | -              | -              | -              | -                | -                | 310,309          | -                | -              | -                |
| Bruton/Toronto-Julia wm rehab                          | 384,047           | -                | -             | -              | -              | -              | -                | -                | -                | 384,047          | -              | -                |
| Brown/Walton-Bedford rehab                             | 396,004           | -                | -             | -              | -              | 396,004        | -                | -                | -                | -                | -              | -                |
| Pine/Walton-Bedford wm rehab                           | 60,175            | -                | -             | -              | -              | -              | -                | 60,175           | -                | -                | -              | -                |
| Hay/Harris-Elizabeth wm rehab                          | 62,062            | -                | -             | -              | -              | -              | -                | -                | 62,062           | -                | -              | -                |
| Harris/Hay-Alexander wm rehab                          | 198,044           | -                | -             | -              | -              | -              | -                | -                | -                | -                | 198,044        | -                |
| Alexander/Hayward-Catherine wm rehab                   | 264,059           | -                | -             | -              | -              | -              | -                | -                | -                | -                | 264,059        | -                |
| William/King-Hope wm rehab                             | 169,716           | -                | -             | -              | 169,716        | -              | -                | -                | -                | -                | -              | -                |
| Francis/Hope-Elgin wm rehab                            | 56,572            | -                | -             | -              | 56,572         | -              | -                | -                | -                | -                | -              | -                |
| King/Madison-Peter wm                                  | 136,169           | -                | -             | -              | -              | -              | -                | -                | -                | -                | -              | 136,169          |
| Madison/Mill-King road wm                              | 106,369           | -                | -             | 106,369        | -              | -              | -                | -                | -                | -                | -              | -                |
| Peter/King-Nelson wm replacement                       | -                 | -                | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Charles/West End-Victoria wm rehab                     | 400,000           | 400,000          | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Charles/Bramley-Church wm rehab                        | 400,000           | 400,000          | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Silver wm rehab  | 51,568            | -                | 51,568        | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Elgin/Ward-Croft reconstruction                        | 496,495           | -                | -             | -              | -              | -              | -                | -                | 496,495          | -                | -              | -                |
| King/Peter - Ward wm rehab                             | 700,149           | -                | -             | -              | -              | -              | 700,149          | -                | -                | -                | -              | -                |
| Ammour/Mill-King wm rehab                              | 93,353            | -                | -             | -              | -              | -              | 93,353           | -                | -                | -                | -              | -                |
| Catherine/Elizabeth/Percy Street wm rehab              | 300,000           | 300,000          | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| <b>Watermain Replacement - (Non-DC) - Subtotal</b>     | <b>8,879,295</b>  | <b>1,100,000</b> | <b>51,568</b> | <b>106,369</b> | <b>438,817</b> | <b>622,292</b> | <b>793,502</b>   | <b>1,263,678</b> | <b>1,365,362</b> | <b>1,177,744</b> | <b>462,103</b> | <b>1,497,860</b> |
| <b>Watermain Replacement - (DC-Related)</b>            |                   |                  |               |                |                |                |                  |                  |                  |                  |                |                  |
| Toronto/Ridout-Arthur wm improvements                  | 591,400           | -                | -             | -              | -              | -              | -                | -                | -                | -                | -              | 591,400          |
| Victoria/Strachan-Ridout wm improvements               | 91,111            | -                | -             | -              | -              | -              | -                | 91,111           | -                | -                | -              | -                |
| Marsh/0.29 W of Rapley-Rapley wm improvements          | 256,031           | -                | -             | -              | -              | -              | -                | -                | -                | 256,031          | -              | -                |
| Lakeshore/CNR-Toronto wm improvements                  | 322,575           | -                | -             | -              | -              | -              | -                | -                | 322,575          | -                | -              | -                |
| Hope/Shuter-CPR wm improvements (2/3 Grant Funded)     | -                 | -                | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Hamilton/Peter-Ward new trunk watermain                | 513,793           | -                | -             | -              | -              | -              | 513,793          | -                | -                | -                | -              | -                |
| Dorset/Bramley-John Interim wm rehab                   | 485,285           | 485,285          | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Arthur/Toronto-Victoria wm rehab                       | -                 | -                | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| Business Park  | 433,600           | 433,600          | -             | -              | -              | -              | -                | -                | -                | -                | -              | -                |
| <b>Watermain Replacement - (DC-Related) - Subtotal</b> | <b>2,693,796</b>  | <b>918,885</b>   | <b>-</b>      | <b>106,369</b> | <b>438,817</b> | <b>622,292</b> | <b>1,307,295</b> | <b>1,354,789</b> | <b>1,687,937</b> | <b>1,433,775</b> | <b>462,103</b> | <b>591,400</b>   |
| <b>TOTAL WATERMAIN CAPITAL EXPENDITURES</b>            | <b>11,573,091</b> | <b>2,018,885</b> | <b>51,568</b> | <b>106,369</b> | <b>438,817</b> | <b>622,292</b> | <b>1,307,295</b> | <b>1,354,789</b> | <b>1,687,937</b> | <b>1,433,775</b> | <b>462,103</b> | <b>2,089,261</b> |

TABLE 2-1  
MUNICIPALITY OF PORT HOPE  
SUMMARY - Long-Term Capital Forecast for Water Related Assets  
2010-2020  
Inflated \$

| Project Description   | TOTAL             | 2010             | 2011           | 2012           | 2013           | 2014           | 2015             | 2016             | 2017             | 2018             | 2019           | 2020             |
|---|-------------------|------------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|----------------|------------------|
| <b>Vehicles, Equipment, and Other</b>                       |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| 2003 Ford Windstar  | 38,396            |                  |                |                | 38,396         |                |                  |                  |                  |                  |                |                  |
| 2001 John Deere Tractor                                     |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| 2004 Honda Lawn Mower                                       | 566               |                  |                |                |                | 566            |                  |                  |                  |                  |                |                  |
| 2005 5000 Watt Portable Generator (Honda)                   | 7,001             |                  |                |                |                |                | 7,001            |                  |                  |                  |                |                  |
| 1985 Canadian Tire Snowblower, 10 HP, 26"                   | 2,063             |                  | 2,063          |                |                |                |                  |                  |                  |                  |                |                  |
| 2004 Impact Gas Detector                                    | 2,000             | 2,000            |                |                |                |                |                  |                  |                  |                  |                |                  |
| 2006 BW GasAlert Microchip (Gas detector)                   | 4,212             |                  |                |                |                |                |                  | 4,212            |                  |                  |                |                  |
| 2005, 3" Grindex electric submersible pump/hoses            | 4,125             |                  | 4,125          |                |                |                |                  |                  |                  |                  |                |                  |
| 2005, 2" Grindex submersible pump/hoses                     | 2,127             |                  |                | 2,127          |                |                |                  |                  |                  |                  |                |                  |
| 2005, ISI SCBA X 2, 4 bottles                               | 8,168             |                  |                |                |                |                | 8,168            |                  |                  |                  |                |                  |
| 2009, ISI SCBA X 2 (NFPA) 4 bottles                         | 12,802            |                  |                |                |                |                |                  |                  |                  | 12,802           |                |                  |
| 2005, Confined Space tripod                                 | 1,750             |                  |                |                |                |                | 1,750            |                  |                  |                  |                |                  |
| 2005, Confined Space rescue winch/controlled ascent         | 2,684             |                  |                |                |                |                | 2,684            |                  |                  |                  |                |                  |
| 2005, Confined Space rescue basket                          | 934               |                  |                |                |                |                | 934              |                  |                  |                  |                |                  |
| 2005, Confined Space lanyards and rescue ropes              | 817               |                  |                |                |                |                | 817              |                  |                  |                  |                |                  |
| 2005, Full body harness (one per Operator) (4)              | 1,167             |                  |                |                |                |                | 1,167            |                  |                  |                  |                |                  |
| 2005 Stihl weed eater                                       | 500               | 500              |                |                |                |                |                  |                  |                  |                  |                |                  |
| 2004 Cannon Digital camera                                  | 500               | 500              |                |                |                |                |                  |                  |                  |                  |                |                  |
| 2003 Chevy 1/2 Ton Cube Van, maintenance vehicle            | 51,206            |                  |                |                |                |                |                  |                  |                  | 51,206           |                |                  |
| 2003 Chevy 3/4 Ton Pick-up #2                               | 38,396            |                  |                |                | 38,396         |                |                  |                  |                  |                  |                |                  |
| 2008 Chevy 1/2 Ton 4x4 Pick-up                              | 38,405            |                  |                |                |                |                |                  |                  |                  | 38,405           |                |                  |
| 2000 Chevy 3/4 Ton Pick-up                                  | 36,097            |                  | 36,097         |                |                |                |                  |                  |                  |                  |                |                  |
| 2009 Chevy Window Van                                       | 42,249            |                  |                |                |                |                |                  |                  |                  |                  | 42,249         |                  |
| 2002 Honda Lawn Mower                                       | 532               |                  |                | 532            |                |                |                  |                  |                  |                  |                |                  |
| 2002 5500 Watt Portable Generator                           | 3,404             |                  |                | 3,404          |                |                |                  |                  |                  |                  |                |                  |
| 2003 Wacker Diaphragm Pump (3')                             |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| 2002 Portable Stihl 400 Cut-off Saw                         |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| 1982 Electric Arc Welder                                    | 6,018             |                  |                |                |                |                |                  | 6,018            |                  |                  |                |                  |
| 1982 Oxy/ace Torches  | 481               |                  |                |                |                |                |                  | 481              |                  |                  |                |                  |
| 2004 Cannon Digital Camera                                  | 1,204             |                  |                |                |                |                |                  | 1,204            |                  |                  |                |                  |
| <b>TOTAL VEHICLES/EQUIPMENT</b>                             | <b>307,805</b>    | <b>3,000</b>     | <b>42,286</b>  | <b>6,063</b>   | <b>76,793</b>  | <b>566</b>     | <b>22,521</b>    | <b>11,915</b>    | <b>-</b>         | <b>102,412</b>   | <b>42,249</b>  | <b>-</b>         |
| <b>Water Treatment - (Non-DC)</b>                           |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Security Fencing for existing WTP, Water Dist., and new WTP |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Joint Operations Centre                                     |                   | 175,142          |                |                |                |                |                  |                  |                  |                  |                |                  |
| Jocelyn Reservoir Inspection                                |                   | 10,000           |                |                |                |                | 11,669           |                  |                  |                  |                | 13,617           |
| Dorset St. Standpipe Rehab                                  |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Raw Water Sample Line                                       |                   | 40,000           |                |                |                |                |                  |                  |                  |                  |                |                  |
| Catholic Protection Program Annual                          |                   |                  | 103,135        | 106,369        | 109,704        | 113,144        | 116,692          | 120,350          | 124,124          | 128,016          | 132,029        | 136,169          |
| DW/QMS  |                   | 64,000           |                |                |                |                |                  |                  |                  |                  |                |                  |
| Valve Maintenance Trailer                                   |                   | 65,000           |                |                |                |                |                  |                  |                  |                  |                |                  |
| <b>Water Treatment - (Non-DC) - Subtotal</b>                | <b>1,569,161</b>  | <b>354,142</b>   | <b>103,135</b> | <b>106,369</b> | <b>109,704</b> | <b>113,144</b> | <b>128,361</b>   | <b>120,350</b>   | <b>124,124</b>   | <b>128,016</b>   | <b>132,029</b> | <b>149,786</b>   |
| <b>Water Treatment - (DC Related)</b>                       |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Water Tower (New Tower/Reservoir)                           |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Zenon Membrane Upgrades                                     |                   |                  |                |                |                |                |                  |                  |                  |                  |                | 408,507          |
| 2005 GE/Zenon membrane modules (total replacement)          |                   |                  |                |                |                |                |                  |                  |                  |                  |                | 408,507          |
| <b>Water Treatment - (DC-Related) - Subtotal</b>            | <b>675,273</b>    | <b>-</b>         | <b>-</b>       | <b>-</b>       | <b>-</b>       | <b>-</b>       | <b>466,766</b>   | <b>-</b>         | <b>-</b>         | <b>-</b>         | <b>-</b>       | <b>408,507</b>   |
| <b>TOTAL WATER TREATMENT</b>                                | <b>2,444,434</b>  | <b>354,142</b>   | <b>103,135</b> | <b>106,369</b> | <b>109,704</b> | <b>113,144</b> | <b>595,127</b>   | <b>120,350</b>   | <b>124,124</b>   | <b>128,016</b>   | <b>132,029</b> | <b>558,293</b>   |
| <b>GRAND TOTAL</b>  | <b>14,325,330</b> | <b>2,376,027</b> | <b>196,989</b> | <b>218,801</b> | <b>625,314</b> | <b>736,002</b> | <b>1,924,943</b> | <b>1,487,054</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> | <b>2,647,554</b> |

TABLE 2-2  
MUNICIPALITY OF PORT HOPE  
SUMMARY - Long-Term Capital Forecast for Wastewater Related Assets  
2010-2020  
Inflated \$

| Project Description  | TOTAL             | 2010              | 2011 | 2012 | 2013          | 2014           | 2015             | 2016             | 2017             | 2018             | 2019           | 2020             |
|--|-------------------|-------------------|------|------|---------------|----------------|------------------|------------------|------------------|------------------|----------------|------------------|
| <b>Sewermain Replacement - (Non-DC)</b>                    |                   |                   |      |      |               |                |                  |                  |                  |                  |                |                  |
| Cavan/Walton-Highland reconstruction                       | 1,684,904         | -                 | -    | -    | -             | -              | -                | 1,684,904        | -                | -                | -              | -                |
| Cavan/Highland-Jocelyn reconstruction                      | 1,906,388         | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 1,906,388        |
| Mill/Madison-Peter road, san                               | 744,743           | -                 | -    | -    | -             | -              | -                | -                | 744,743          | -                | -              | -                |
| Rose Glen/CNR-Peter san rehab                              | 272,338           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 272,338          |
| Lakeshore/CNR-Toronto san improvements                     | 620,619           | -                 | -    | -    | -             | -              | -                | -                | 620,619          | -                | -              | -                |
| Peter/King-Nelson san replacement                          | -                 | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| Trefusis/Fraser-Perchival san rehab                        | 434,433           | -                 | -    | -    | -             | -              | -                | -                | 434,433          | -                | -              | -                |
| Bruton/Toronto-Julia san rehab                             | 512,062           | -                 | -    | -    | -             | -              | -                | 96,280           | -                | 512,062          | -              | -                |
| Baldwin/Church-100m E. san rehab                           | 96,280            | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| Brown Dr. san rehab  | 62,062            | -                 | -    | -    | -             | -              | -                | 300,876          | -                | -                | -              | -                |
| Julia Ln./Victoria-Julia St. san rehab                     | 300,876           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| Clayton's Ln. san rehab                                    | 161,361           | -                 | -    | -    | -             | -              | -                | -                | 161,361          | -                | -              | -                |
| Hill/Walton-70m N san rehab                                | 68,085            | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 68,085           |
| Hill/Bruton-Bedford san rehab                              | 149,786           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 149,786          |
| Brown/Walton-Bedford rehab                                 | 452,576           | -                 | -    | -    | -             | 452,576        | -                | -                | -                | -                | -              | -                |
| Maitland san rehab   | 49,650            | -                 | -    | -    | -             | -              | -                | -                | 49,650           | -                | -              | -                |
| Brogdih's Ln/Ontario-Ganaraska san rehab                   | 128,016           | -                 | -    | -    | -             | -              | -                | 240,701          | -                | 128,016          | -              | -                |
| Pine/Gifford-Bedford reconstruction                        | 240,701           | -                 | -    | -    | -             | -              | -                | -                | 99,299           | -                | -              | -                |
| Ross san rehab   | 99,299            | -                 | -    | -    | -             | -              | -                | -                | -                | 128,016          | -              | -                |
| Perk/Smith-John san rehab                                  | 128,016           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | 462,103        | -                |
| Alexander/Hayward-Catherine san rehab                      | 462,103           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| Elgin/Ward-Croft Reconstruction                            | 620,619           | -                 | -    | -    | -             | -              | -                | -                | 620,619          | -                | -              | -                |
| Deblaque/Ward-Wellington san rehab                         | 680,846           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 680,846          |
| King/Madison-Peter road san                                | 544,676           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 544,676          |
| King/Peter-Ward san rehab                                  | 933,532           | -                 | -    | -    | -             | -              | 933,532          | -                | -                | -                | -              | -                |
| Armour/Mill-King road, san rehab                           | 163,368           | -                 | -    | -    | -             | -              | 163,368          | -                | -                | -                | -              | -                |
| Madison/Mill-King road san                                 | 204,254           | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 204,254          |
| <b>Sewermain Replacement - (Non-DC) Subtotal</b>           | <b>11,721,571</b> | -                 | -    | -    | -             | <b>452,576</b> | <b>1,096,900</b> | <b>2,322,761</b> | <b>2,792,785</b> | <b>768,094</b>   | <b>462,103</b> | <b>3,826,352</b> |
| <b>Sewermain Replacement - (DC-Related)</b>                |                   |                   |      |      |               |                |                  |                  |                  |                  |                |                  |
| Marsh/0.29 W of Rapley-Rapley san improvements             | 256,031           | -                 | -    | -    | -             | -              | -                | -                | -                | 256,031          | -              | -                |
| Dorset/Bramley-John Interim san rehab                      | 310,939           | 310,939           | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| Business Park  | 867,300           | 867,300           | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| <b>Sewermain Replacement - (DC-Related) Subtotal</b>       | <b>1,434,270</b>  | <b>1,178,239</b>  | -    | -    | -             | -              | -                | -                | -                | <b>256,031</b>   | -              | -                |
| <b>TOTAL SEWERMAIN CAPITAL EXPENDITURES</b>                | <b>13,155,842</b> | <b>1,178,239</b>  | -    | -    | -             | <b>452,576</b> | <b>1,096,900</b> | <b>2,322,761</b> | <b>2,792,785</b> | <b>1,024,125</b> | <b>462,103</b> | <b>3,826,352</b> |
| <b>Vehicles, Equipment, and Other</b>                      |                   |                   |      |      |               |                |                  |                  |                  |                  |                |                  |
| 2002 Everest Camera for Confined Spaces                    | 20,425            | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | 20,425           |
| 2000 Chev 3/4 Ton  | 192,206           | -                 | -    | -    | -             | -              | -                | 36,105           | 37,237           | 38,405           | 39,609         | 40,851           |
| 2004 Diesel Pump (Gorman-Rupp)                             | 18,671            | -                 | -    | -    | -             | -              | 18,671           | -                | -                | -                | -              | -                |
| Honda Power Washer - Gas                                   | 11,500            | -                 | -    | -    | -             | -              | -                | 2,160            | 2,228            | 2,298            | 2,370          | 2,444            |
| 2000 MTD Snowblower Snowwhite, 5 HP, 24"                   | 6,407             | -                 | -    | -    | -             | -              | -                | 1,204            | 1,241            | 1,280            | 1,320          | 1,362            |
| 1999 Honda 2 - Gas Pump                                    | -                 | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| 2004 Honda Generator - Gas                                 | 17,299            | -                 | -    | -    | -             | -              | -                | 3,249            | 3,351            | 3,456            | 3,565          | 3,677            |
| 1984 Portable 24" Exhaust Fan                              | -                 | -                 | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| <b>TOTAL VEHICLES/EQUIPMENT</b>                            | <b>266,508</b>    | -                 | -    | -    | -             | -              | <b>18,671</b>    | <b>42,718</b>    | <b>44,058</b>    | <b>45,439</b>    | <b>46,864</b>  | <b>68,759</b>    |
| <b>Sewer Treatment (Non-DC)</b>                            |                   |                   |      |      |               |                |                  |                  |                  |                  |                |                  |
| Mill St. Pumping Station Roof Repairs                      | 10,970            | -                 | -    | -    | 10,970        | -              | -                | -                | -                | -                | -              | -                |
| <b>Sewer Treatment - (DC-Related)</b>                      |                   |                   |      |      |               |                |                  |                  |                  |                  |                |                  |
| Sewage Treatment Plant (Repairs, Expansion, Design, Study) | 38,500,000        | 38,500,000        | -    | -    | -             | -              | -                | -                | -                | -                | -              | -                |
| <b>TOTAL SEWER TREATMENT</b>                               | <b>38,510,970</b> | <b>38,500,000</b> | -    | -    | <b>10,970</b> | -              | -                | -                | -                | -                | -              | -                |
| <b>GRAND TOTAL</b>   | <b>51,933,320</b> | <b>39,678,239</b> | -    | -    | <b>10,970</b> | <b>452,576</b> | <b>1,115,571</b> | <b>2,365,479</b> | <b>2,836,843</b> | <b>1,069,564</b> | <b>508,967</b> | <b>3,895,111</b> |

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### **3. LIFE CYCLE COSTING**

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## **3. LIFE CYCLE COSTING**

### **3.1 Overview of Life Cycle Costing**

#### **3.1.1 *Definition***

For many years, life cycle costing has been used in the field of maintenance engineering and to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use in the areas of industrial decision-making and the management of physical assets.

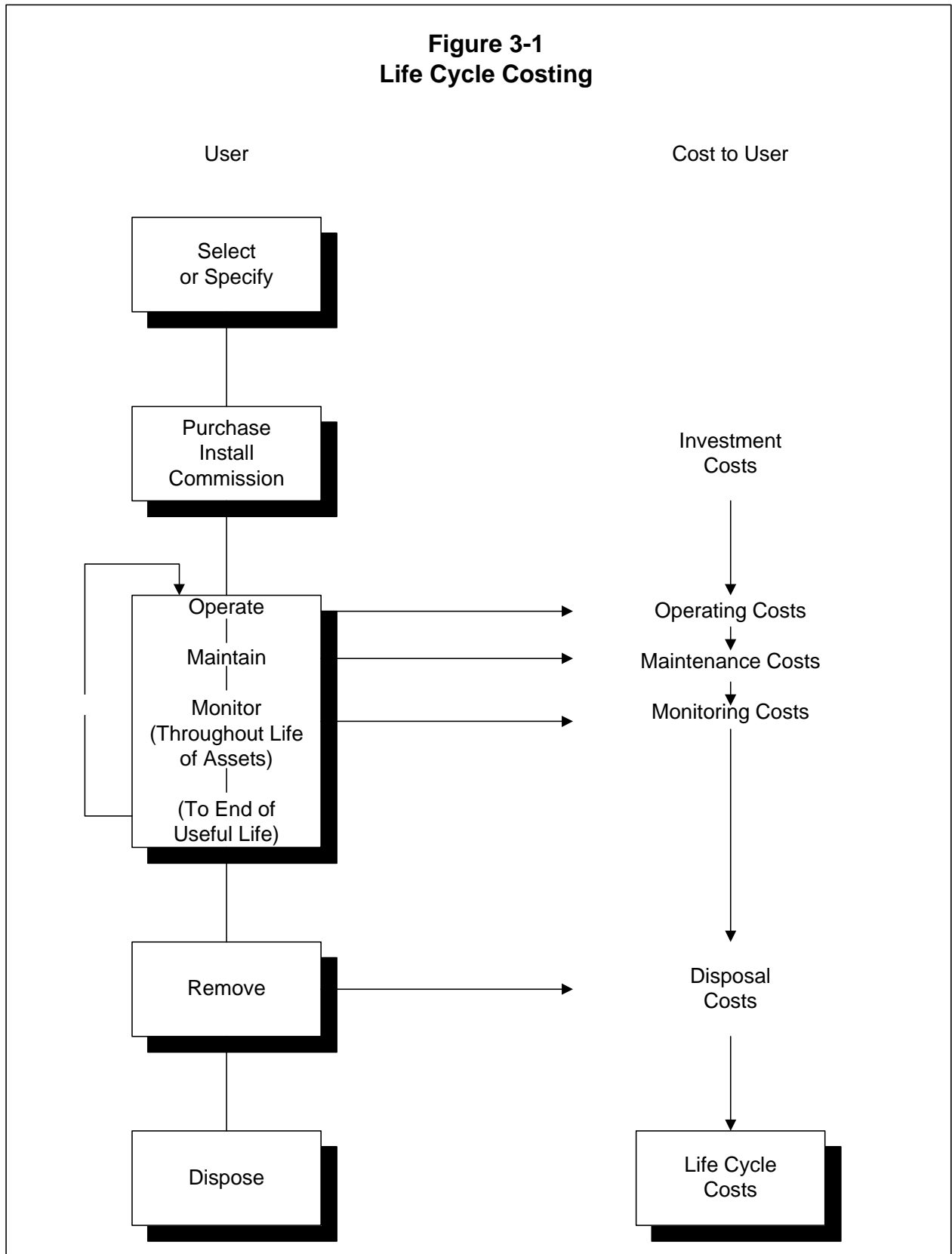
By definition, life cycle costs are all the costs which are incurred during the life cycle of a physical asset, from the time its acquisition is first considered, to the time it is taken out of service for disposal or redeployment. The stages which the asset goes through in its life cycle are specification, design, manufacture (or build), install, commission, operate, maintain and disposal. Figure 3-1 depicts these stages in a schematic form.

#### **3.1.2 *Financing Costs***

This section will focus on financing mechanisms in place to fund the costs incurred throughout the asset's life.

In a municipal context, services are provided to benefit tax/rate payers. Acquisition of assets is normally timed in relation to direct needs within the community. At times, economies of scale or technical efficiencies will lead to oversizing an asset to accommodate future growth within the municipality. Over the past few decades, new financing techniques such as development charges have been employed based on the underlying principle of having tax/rate payers who benefit directly from the service paying for that service. Operating costs which reflect the cost of the service for that year are charged directly to all existing tax/rate payers who have received the benefit. Operating costs are normally charged through the tax base or user rates.

**Figure 3-1  
Life Cycle Costing**



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Capital expenditures are recouped through several methods; operating budget contributions, development charges, reserves, developer contributions and debentures, being the most common.

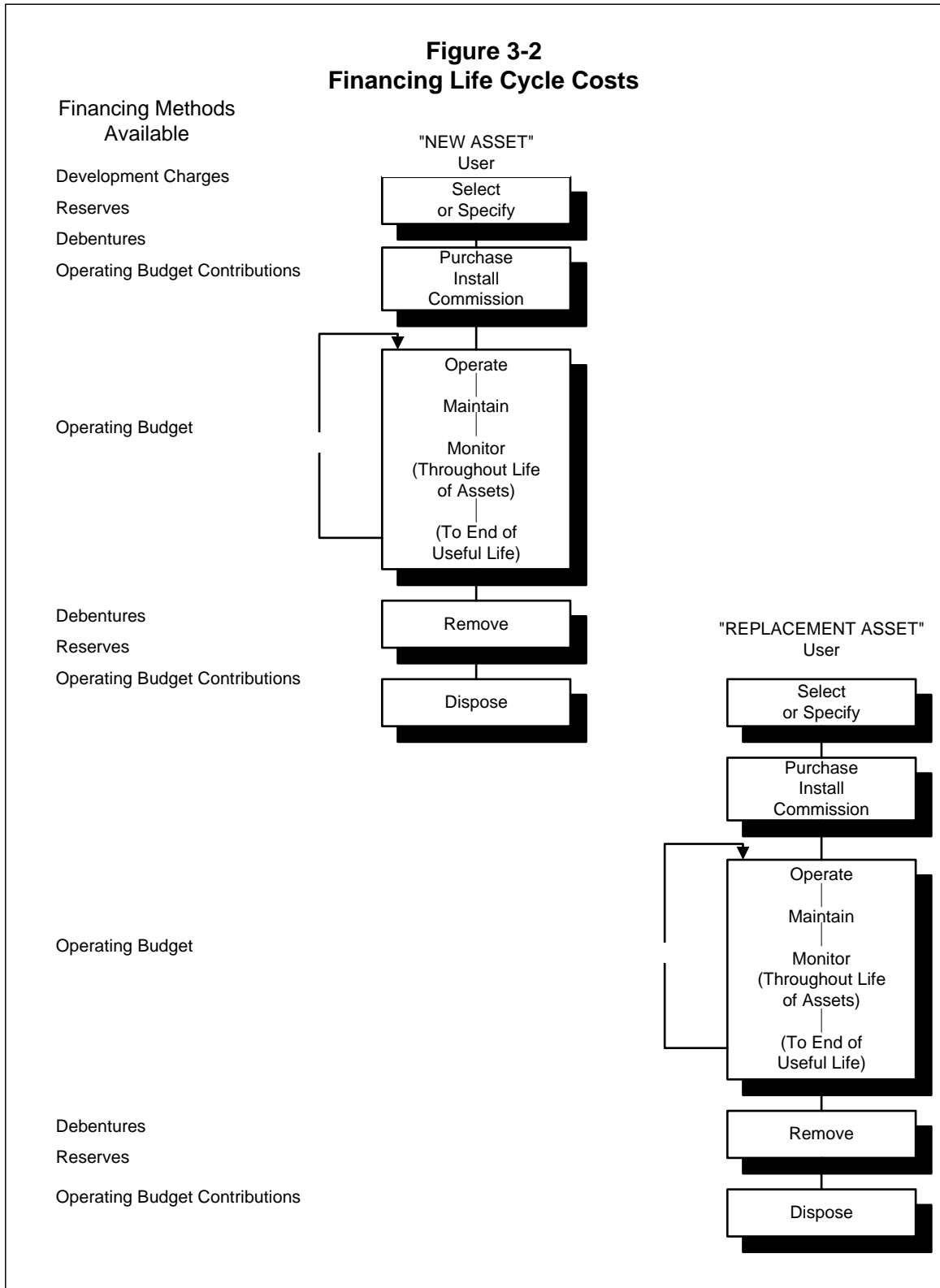
New construction related to growth could produce development charges and developer contributions (e.g. works internal to a subdivision which are the responsibility of the developer to construct) to fund a significant portion of projects, where new assets are being acquired to allow growth within the municipality to continue. As well, debentures could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

**However, capital construction to replace existing infrastructure is largely not growth-related and will therefore not yield development charges or developer contributions to assist in financing these works. Hence, a municipality will be dependent upon debentures, reserves and contributions from the operating budget to fund these works.**

Figure 3-2 depicts the costs of an asset from its initial conception through to replacement and then continues to follow the associated costs through to the next replacement.

As referred to earlier, growth-related financing methods such as development charges and developer contributions could be utilized to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits directly from the installation of this asset. Other financing methods may be used as well to finance the non-growth related component of this project; reserves which have been collected from past tax/rate payers, operating budget contributions which are collected from existing tax/rate payers and debenturing which will be carried by future tax/rate payers. Ongoing costs for monitoring, operating and maintaining the asset will be charged annually to the existing tax/rate payer.

When the asset requires replacement, the sources of financing will be limited to reserves, debentures and contributions from the operating budget. At this point, the question is raised; "If the cost of replacement is to be assessed against the tax/rate payer who benefits from the replacement of the asset, should the past tax/rate payer pay for this cost or should future rate payers assume this cost?" If the position is taken that the past user has used up the asset, hence he should pay for the cost of replacement, then a charge should be assessed annually, through the life of the asset to have funds available to replace it when the time comes. If the



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position is taken that the future tax/rate payer should assume this cost, then debenturing and, possibly, a contribution from the operating budget should be used to fund this work.

Charging for the cost of using up of an asset is the fundamental concept behind depreciation methods utilized by the private sector. This concept allows for expending the asset as it is used up in the production process. The tracking of these costs forms part of the product's selling price and hence end users are charged for the asset's depreciation. The same concept can be applied in a municipal setting to charge existing users for the asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.

### **3.1.3 Costing Methods**

There are two fundamental methods of calculating the cost of the usage of an asset and for the provision of the revenue required when the time comes to retire and replace it. The first method is the Depreciation Method. This method recognizes the reduction in the value of the asset through wear and tear, and aging. There are two commonly used forms of depreciation: the straight-line method and the reducing balance method.

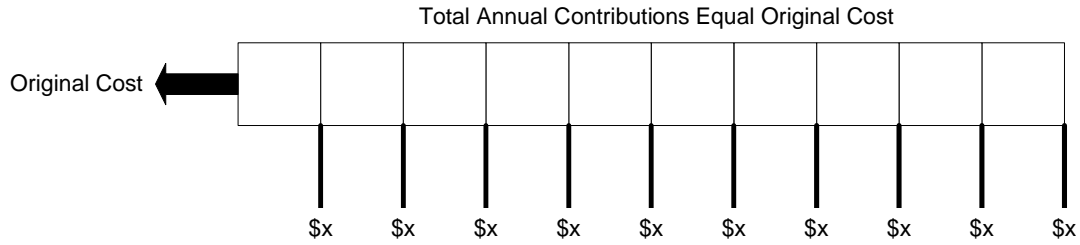
The straight line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing a fixed percentage rate and this rate is applied annually to the undepreciated balance of the asset value.

The second method of life cycle costing is the sinking fund method. This method first estimates the future value of the asset at the time of replacement. This is done by inflating the original cost of the asset at an assumed annual inflation rate. A calculation is then performed to determine annual contributions (equal or otherwise) which, when invested, will grow with interest to equal the future replacement cost.

The preferred method used herein is the sinking fund method of life cycle costing.

FIGURE 3-3

**STRAIGHT LINE DEPRECIATION**

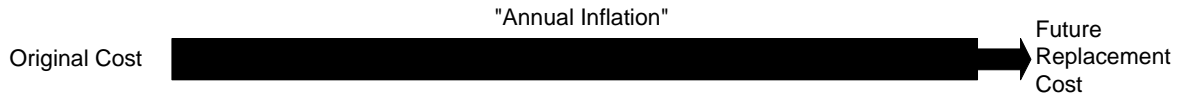


Formula:

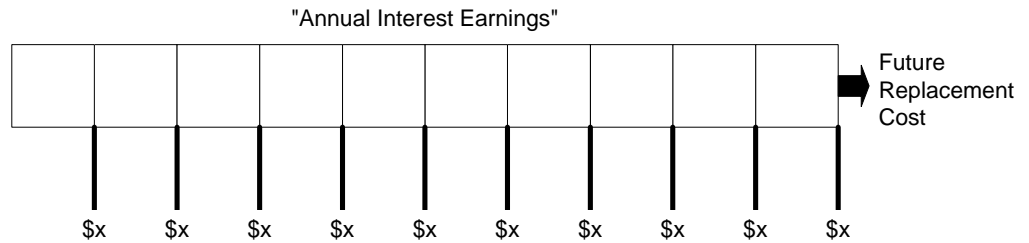
$$\frac{\text{Original Cost} - \text{Salvage Cost}}{\text{Number of Years of Useful Life}}$$

**SINKING FUND METHOD**

1. "Estimate Future Replacement Cost"



2. "Estimate Annual Contribution which will Grow with Interest to Equal Future Replacement Cost"



## 3.2 Impact on Budgets

Detailed water system and wastewater system inventory information was obtained from the Municipality. The age of the water and wastewater systems date back to the early 1900's. The detailed water and wastewater vertical and horizontal asset inventories are provided in Appendix A. As well, the lifecycle "sinking fund" contribution amounts for each piece of infrastructure have also been calculated to determine the level of investment the Municipality may wish to consider as part of its budgeting process<sup>2</sup>. For the purposes of the rate calculations, lifecycle contributions have been phased-in by the end of the forecast period. This information is summarized in Table 3-1.

**Table 3-1  
Municipality of Port Hope  
Summary of Water and Wastewater Infrastructure**

| System       | Total Replacement Value | Annual Lifecycle Contribution (post 2020 replacement) |
|--------------|-------------------------|---|
| Water        | 74,034,361              | 703,030   |
| Wastewater   | 74,908,205              | 596,337   |
| <b>Total</b> | <b>148,942,566</b>      | <b>880,650</b>  |

<sup>2</sup> Lifecycle payment based on current replacement value inflated to replacement year using average NRBCPI of 3.14% adjusted for average investment interest of 4.00%

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## 4. CAPITAL COST FINANCING OPTIONS

## 4. CAPITAL COST FINANCING OPTIONS

### 4.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities have had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past few years, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 130 providing for natural person powers for fees and charges bylaws); while others appear to restrict them (Bill 98 in 1997 providing amendments to the *Development Charges Act*).

The most recent *Municipal Act* came into force on January 1, 2003, with significant amendment in 2006 through the *Municipal Statute Law Amendment Act*. Part XII of the Act and O.Reg. 584/06, govern a municipality's ability to impose fees and charges. This Act provides municipalities with broadly defined powers and provides the ability to impose fees for both operating and capital purposes. Under s.484 of *Municipal Act, 2001*, the Local Improvement Act was repealed with the in force date of the Municipal Act (January 1, 2003). The municipal powers granted under the Local Improvement Act now fall under the jurisdiction of the *Municipal Act*.

The methods of capital cost recovery available to municipalities are provided as follows:

| RECOVERY METHODS   | SECTION REFERENCE |
|--|-------------------|
| <ul style="list-style-type: none"> <li>• <i>Development Charges Act, 1997</i></li> </ul>   | 4.2               |
| <ul style="list-style-type: none"> <li>• <i>Municipal Act</i> <ul style="list-style-type: none"> <li>• Fees and Charges</li> <li>• Local Improvements</li> </ul> </li> </ul> | 4.3               |

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## 4.2 **Development Charges Act, 1997**

In November, 1996, the Ontario Government introduced Bill 98, a new *Development Charges Act*. The Province's stated intentions were to "create new construction jobs and make home ownership more affordable" by reducing the charges and to "make municipal Council decisions more accountable and more cost effective." The basis for this Act is to allow municipalities to recover the growth-related capital cost of infrastructure necessary to accommodate new growth within the municipality. Generally the new Act provided the following changes to the former Act.

- Replace those sections of the 1989 DCA which govern municipal development charges. (Education development charges are not to be significantly altered at this time.)
- Limit services which can be financed from development charges, specifically excluding parkland acquisition, administration buildings, and cultural, entertainment, tourism, solid waste management and hospital facilities.
- Ensure that the level of service used in the calculation of capital costs will not exceed the average level of service over the previous decade. Level of service is to be measured from both a quality and quantity perspective.
- Provide that uncommitted excess capacity available in existing municipal facilities and benefits to existing residents are removed from the calculation of the charge.
- Ensure that the development charge revenues collected by municipalities are spent only on those capital costs identified in the calculation of the development charge.
- Require municipalities to contribute funds (e.g. taxes, user charges or other non-development charge revenues) to the financing of certain projects primarily funded from development charges. The municipal contribution is 10 percent for services such as recreation, parkland development, libraries, etc.
- Permit (but apparently not require) municipalities to grant developers credits for the direct provision of services identified in the development charge calculation and, when credits are granted, require the municipality to reimburse the developer for the costs the

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municipality would have incurred if the project had been financed from the development charge reserve fund.

- Set out provisions for front-end financing capital projects (limited to essential services) required to service new development.
- Set out provisions for appeals and complaints, and transitional rules, including that municipalities will have up to 18 months from the date of proclamation of the new Act to establish new development charge by-laws, otherwise the old by-laws will expire.

### **4.3 Municipal Act**

4.3.1 Part XII of the Municipal Act provides municipalities with broad powers to impose fees and charges via passage of a by-law. These powers, as presented in s.391(1), include imposing fees or charges:

- “for services or activities provided or done by or on behalf of it;
- for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and
- for the use of its property including property under its control”

Restrictions are provided to ensure that the form of the charge is not akin to a poll tax. Any charges not paid under this authority may be added to the tax roll and collected in a like manner. The fees and charges imposed under this part are not appealable to the OMB.

4.3.2 s 391(2) of the Municipal Act permits municipalities to impose charges to recover capital costs, by by-law, from owners or occupants of land who receive an immediate benefit or a benefit at some later point in time. For a by-law imposed under this section of the Act:

- A variety of different means could be used to establish the rate, and recovery of the costs could be imposed by a number of methods at the discretion of Council (i.e. lot size, frontage, number of benefiting properties, etc.);

- Rates could be imposed in respect to costs of major capital works, even though an immediate benefit is not enjoyed;
- Non-abutting owners could be charged;
- Recovery could be authorized against existing works, where new infrastructure was added to such works, "notwithstanding that the capital costs of existing works has in whole or in part been paid."
- Charges on individual parcels could be deferred;
- Exemptions could be established; and
- OMB approval is not required.

#### 4.3.3 Under the previous *Local Improvement Act*:

- A variety of different types of works could be undertaken, such as water main, storm and wastewater projects, supply of electrical light or power, bridge construction, sidewalks, road widening and paving.
- Council could pass a by-law for undertaking such work on petition of a majority of benefiting taxpayers, on a 2/3 vote of Council and on sanitary grounds, based on the recommendation of the Minister of Health. The by-law was required to go to the OMB, which might hold hearings and alter the by-law, particularly if there were objections.
- The entire cost of a work was assessed only upon the lots abutting directly on the work, according to the extent of their respective frontages, using an equal special rate per metre of frontage.
- As noted, this Act was repealed as of April 1, 2003; however, O.Reg. 119/03 was enacted on April 19, 2003 which restores many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

## 4.4 **Grant Funding Availability**

Since the early 1980's, the level of Provincial and Federal assistance toward municipal infrastructure has declined significantly. By the mid 1990's, there were very limited funds available from senior levels of government. In mid-2000, initiatives from the Provincial and Federal level were announced; providing for a new program (OSTAR) to assist small cities, towns and rural areas in addressing infrastructure improvements. In November 2004, a new program (COMRIF) was introduced to assist municipalities with a population of less than

250,000 with the enhancement/renewal of aging infrastructure including water and sewage treatment. The Municipality was successful in obtaining approximately \$9.98 million in COMRIF funding for the sewage treatment plant and these have been incorporated in the rate calculations provided herein.

New grant programs (i.e. Infrastructure Stimulus Fund, Building Canada Fund) have been introduced more recently at both provincial and federal levels. The municipality has been successful in obtaining grant funding from these sources for various water and wastewater projects summarized as follows:

| <b>Services</b> | <b>Total Grant Funds Received</b> | <b>Project Details</b>                      |
|-----------------|-----------------------------------|---|
| Water           | \$204,409                         | Dorset St. interim watermain rehabilitation |
| Wastewater      | \$109,247                         | Dorset St. interim sewermain rehabilitation |
| <b>TOTAL</b>    | <b>\$313,656</b>                  |   |

These funds have been incorporated within the rate calculations.

#### **4.5 Existing Reserves/Reserve Funds**

The Municipality has established reserves for water and wastewater services which are used in supporting existing rates (i.e. stabilization). Due to reduced revenues resulting from significant declines in consumption and charging practices, these balances have not been sufficient to fund the financing needs of the water and wastewater systems. As a result, working capital funds have been used as an interim financing measure to support the required capital expenditures. As of January 2010, approximately \$6.2 million including imputed interest (\$5.4 million water, \$750,000 wastewater) has been borrowed from working funds. These funds have been used to support both DC-related expenditures (\$3.7 million) and rate-related expenditures (\$2.5 million).

In general, borrowing from working capital funds has been a temporary strategy employed to bridge short-term funding gaps until alternative funding sources materialize. Moreover, prolonged reliance on working funds is not sustainable in the context of self-sustaining water and wastewater rates. As such, the financial plan herein includes the repayment of the rate-related portion of these funds over the 10-year forecast period<sup>3</sup>. Accordingly, the DC-related

<sup>3</sup> Annual repayment is based on interest of 4.00%/year amortized over a period of 11.6 years.

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portion of working funds will be recovered from development charges and will not impact the rate calculations.

#### **4.6 Debenture Financing**

Although it is not a direct method of minimizing the overall cost to the ratepayer, debentures are used by municipalities to assist in cash flowing large capital expenditures. The Ministry of Municipal Affairs regulates the level of debt incurred by Ontario municipalities, through its powers established under the *Municipal Act*. Ontario Regulations 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a municipality's debt capacity is capped at a level where no more than 25% of the municipality's own purpose revenue may be allotted for servicing the debt (i.e. debt charges).

It should be noted, however, that the issuance of debt should be managed at levels sustainable by the municipality. Issuance of large amounts of debt in any one year can have dramatic impacts on taxes and rates. Hence, proper management of capital spending and the level of debt issued annually must be monitored and evaluated over the longer-term period.

Given the recent and anticipated debentures for water and wastewater treatment plants, debenture financing has been utilized sparingly in the financial plan. Approximately \$1.2 million in debenture financing has been identified for water services.

#### **4.7 Infrastructure Renewal Bonds**

Infrastructure Ontario (IO) is an arms length crown corporation, which has been set up as a tool to offer low-cost and longer-term financing to assist municipalities in renewing their infrastructure (this corporation has merged the former OSIFA into its operations) IO combines the infrastructure renewal needs of municipalities into an infrastructure investment "pool". IO will raise investment capital to finance loans to the public sector by selling a new investment product called Infrastructure Renewal Bonds to individual and institutional investors.

IO provides access to infrastructure capital that would not otherwise be available to smaller borrowers. Larger borrowers receive a longer term on their loans than they could obtain in the financial markets, and can also benefit from significant savings on transaction costs such as legal costs and underwriting commissions. Under the IO approach, all borrowers receive the same low interest rate. IO will enter into financial agreement with each municipality subject to technical and credit reviews, for a loan up to the maximum amount of the loan request.

The first round of the former OSIFA's 2004-05 infrastructure renewal program was focused on municipal priorities of clean water infrastructure, sewage treatment facilities, municipal roads and bridges, public transit and waste management infrastructure. The focus of the program was expanded in 2005/2006 to include:

- clean water infrastructure;
- sewage infrastructure;
- waste management infrastructure;
- municipal roads and bridges;
- public transit;
- municipal long-term care homes;
- renewal of municipal social housing and culture;
- tourism and recreation infrastructure;
- municipal administrative buildings;
- local police and fire stations;
- emergency vehicles and equipment;
- ferries, docks and municipal airports.

It is noted that the interest rates will vary from time to time. The following interest rates were available to municipalities for the following term, based on an amortizer repayment schedule as of February 9, 2010:

|         |       |
|---------|-------|
| 5 Year  | 2.62% |
| 10 Year | 3.72% |
| 15 Year | 4.29% |
| 20 Year | 4.65% |
| 25 Year | 4.89% |

|         |       |
|---------|-------|
| 30 Year | 5.02% |
| 35 Year | 5.10% |
| 40 Year | 5.15% |

To be eligible to receive these loans, municipalities must submit a formal application along with pertinent financial information. Allotments are prioritized and distributed based upon the Province's assessment of need. The Municipality has utilized this program for financing both the Water and Sewage Treatment Plants.

#### **4.8 Recommended Approach**

Of the various alternatives provided in this section, the following are recommended for the water and wastewater system for further consideration of the Municipality of Port Hope. Tables 4-1 and 4-2 summarize the funding sources for water and wastewater system separately.

| Funding Source                     | 2010-2020 Inflated \$ |                     |                   |
|------------------------------------|-----------------------|---------------------|-------------------|
|                                    | Water Services        | Wastewater Services | Total             |
| Provincial/Federal Grants          | 195,346               | 11,971,841          | 12,167,187        |
| Development Charges                | 2,958,550             | 14,087,174          | 17,045,724        |
| Debenture Requirements             | 1,157,249             | 12,166,585          | 13,323,834        |
| Reserve/Reserve Fund Contributions | 2,800,000             | 7,699,657           | 10,499,657        |
| Operating Contributions            | 7,214,185             | 6,008,064           | 13,222,249        |
| <b>Total</b>                       | <b>14,325,330</b>     | <b>51,933,321</b>   | <b>66,258,651</b> |

Table 4-1  
MUNICIPALITY OF PORT HOPE  
WATER SERVICES CAPITAL BUDGET FORECAST  
2010-2020  
Inflated \$

| Project<br>Descriptor                  | Total             | Year             |                |                |                |                |                  |                  |                  |                  |                |                  |
|--|-------------------|------------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|----------------|------------------|
|  |                   | 2010             | 2011           | 2012           | 2013           | 2014           | 2015             | 2016             | 2017             | 2018             | 2019           | 2020             |
| <b>Total Capital Expenditures</b>      | <b>14,325,330</b> | <b>2,376,027</b> | <b>196,989</b> | <b>218,801</b> | <b>625,314</b> | <b>736,002</b> | <b>1,924,943</b> | <b>1,487,054</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> | <b>2,647,554</b> |
| <b>Capital Financing</b>               |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Provincial Grants and Other Funding    | 195,346           |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Transfer from DC Reserves              | 2,958,550         | 523,432          |                |                |                | 980,559        |                  | 91,111           | 322,575          | 40,965           |                | 999,908          |
| Debtenture Requirements (Rate-related) | 1,157,249         | 1,157,249        |                |                |                |                |                  |                  |                  |                  |                |                  |
| Debtenture Requirements (DC-related)   |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Self-Funding (Rate-related)            |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Self-Funding (DC-related)              |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |
| Operating Contributions                | 7,214,185         | 500,000          | 196,989        | 218,801        | 625,314        | 736,002        | 944,385          | 695,943          | 789,486          | 923,238          | 636,382        | 947,646          |
| Water Reserves                         | 2,800,000         |                  |                |                |                |                |                  | 700,000          | 700,000          | 700,000          |                | 700,000          |
| <b>Total Capital Financing</b>         | <b>14,325,330</b> | <b>2,376,027</b> | <b>196,989</b> | <b>218,801</b> | <b>625,314</b> | <b>736,002</b> | <b>1,924,943</b> | <b>1,487,054</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> | <b>2,647,554</b> |

Table 4-2  
MUNICIPALITY OF PORT HOPE  
WASTEWATER SERVICES CAPITAL BUDGET FORECAST  
2010-2020  
Inflated \$

| Project Description                      | Total             | Year              |      |        |         |           |           |           |           |           |           |           |
|--|-------------------|-------------------|------|--------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|  |                   | 2010              | 2011 | 2012   | 2013    | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |
| <b>Total Capital Expenditures</b>        | <b>51,933,320</b> | <b>39,678,239</b> | -    | -      | 10,970  | 452,576   | 1,115,571 | 2,365,479 | 2,836,843 | 1,069,564 | 508,967   | 3,895,111 |
| <b>Capital Financing</b>                 |                   |                   |      |        |         |           |           |           |           |           |           |           |
| Provincial Grants and Other Funding      | 11,971,841        | 11,971,841        | -    | -      | -       | -         | -         | -         | -         | -         | -         | -         |
| Transfer from DC Reserves                | 965,901           | 924,936           | -    | -      | -       | -         | -         | -         | -         | 40,965    | -         | -         |
| Debt Service Requirements (Rate-related) | 12,166,585        | 12,166,585        | -    | -      | -       | -         | -         | -         | -         | -         | -         | -         |
| Debt Service Requirements (DC-related)   | 13,121,272        | 13,121,272        | -    | -      | -       | -         | -         | -         | -         | -         | -         | -         |
| Self-Funding (Rate-related)              | -                 | -                 | -    | -      | -       | -         | -         | -         | -         | -         | -         | -         |
| Self-Funding (DC-related)                | -                 | -                 | -    | -      | -       | -         | -         | -         | -         | -         | -         | -         |
| Operating Contributions                  | 6,006,064         | -                 | -    | 10,970 | 452,576 | 615,571   | 665,479   | 1,130,791 | 1,028,599 | 508,967   | 1,595,111 |           |
| Wastewater Reserves                      | 7,699,657         | 1,493,604         | -    | -      | -       | 500,000   | 1,700,000 | 1,706,052 | -         | -         | 2,300,000 |           |
| <b>Total Capital Financing</b>           | <b>51,933,320</b> | <b>39,678,239</b> | -    | 10,970 | 452,576 | 1,115,571 | 2,365,479 | 2,836,843 | 1,069,564 | 508,967   | 3,895,111 |           |

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## **5. OVERVIEW OF EXPENDITURES AND REVENUES**

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## 5. OVERVIEW OF EXPENDITURES AND REVENUES

### 5.1 Water Operating Expenditures and Revenues

In this report, the forecasted budget figures (2010-2020) are based on the Municipality's 2009 water operating budget. The costs for each component of the operating budget have been reviewed with staff to establish forecast adjustments. Given the extent to which engineering staff are involved in water operations, it has been determined that one-third of their salary/wages/benefits be included as part of the operating budget. This adds approximately \$104,000 to the original 2009 budget figure. Operating expenditures have been increased annually based on operating cost inflation assumed at 2.26%<sup>4</sup>.

The capital-related operating expenditure forecast includes transfers to capital, transfers to reserve funds and lifecycle reserves, repayment of working funds and existing debt repayment. The full life-cycle contributions as detailed in Section 3.2 above are forecast to gradually phase-in over the 2010-2020 period. This will provide for sustainability in capital funds, thereby reducing the reliance on debt and working funds in the future.

Historically, the base charge component of the water rate has been imposed to recover the fixed costs of administration and overhead services. However, given forecasted debt levels projected over the long term for water treatment and other capital items, the base charge has been set to recover the fixed funding obligation of servicing that debt. This will provide the Municipality with the revenue certainty required to ensure that these obligations are met, thus mitigating the funding risks associated with changing consumption demands. The administration, overhead and operating expenditures will be recovered from the consumption component of the rate. The majority of funding for municipal water services will continue to be recovered from the volumetric charges. In addition, the Municipality collects revenues for water administration & service fees, meter repairs, water sales at pump house, investment income and other miscellaneous revenue sources to contribute towards operating expenditures. These have been increased with inflation over the forecast period.

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<sup>4</sup> Operating expenses inflated using the average historic Consumer Price Index (CPI) for the period 1983-2008

As a result of the operating expenditure adjustments, inflationary increases, and annual capital funding requirements, the water operating expenditures are anticipated to increase over the forecast period as follows:

| <b>Water</b>              | <b>2010</b>      | <b>2020</b>      | <b>Average Annual Percentage Increase</b> |
|---------------------------|------------------|------------------|---|
| Admin & Overhead Costs    | 724,914          | 851,828          | 1.6%                                      |
| Water Treatment           | 999,128          | 1,212,559        | 2.0%                                      |
| Water Distribution        | 708,638          | 885,807          | 2.3%                                      |
| Capital                   | 907,631          | 2,103,491        | 8.8%                                      |
| <b>Gross Expenditures</b> | <b>3,340,312</b> | <b>5,053,685</b> | <b>4.2%</b>                               |
| Water Revenue             | 774,508          | 913,821          | 1.7%                                      |
| <b>Net Expenditures</b>   | <b>2,565,804</b> | <b>4,139,864</b> | <b>4.9%</b>                               |

Table 5-1 provides the water operating budget forecast for the 2010-2020 period.



## 5.2 Wastewater Operating Expenditures and Revenues

Similar to the budget forecasting approach presented above for water services, the costs for wastewater operating expenditures have been adjusted over the forecast period by inflation. Annual operating costs have all been forecast based on 2.26% annual inflation from 2009 budget estimates. The wastewater operating expenditures have also been adjusted to include the proportionate share of engineering salary/wages/benefits (\$104,000).

Capital-related expenditures for wastewater services have also been forecast over the 2010-2020 period based on the capital funding plan presented in Section 4.8. The capital-related expenditures include annual transfers to capital and reserve/reserve funds, repayment of working funds, and debt repayment costs.

Consistent with the policy for water services, the base charge component of the wastewater rate will recover forecast debt repayments over the period 2010-2020. Similar to water services, the majority of funding for wastewater services is recovered from the volumetric charges. In addition, wastewater revenues related to sewer sales at plant, investment income and miscellaneous revenues have been increased with inflation over the forecast period.

As a result of the operating expenditure adjustments, inflationary increases, and annual capital funding requirements, the wastewater operating expenditures are anticipated to increase over the forecast period as follows:

| <b>Wastewater</b>         | <b>2010</b>      | <b>2020</b>      | <b>Average Annual Percentage Increase</b> |
|---------------------------|------------------|------------------|---|
| Admin & Overhead Costs    | 945,840          | 1,120,035        | 1.7%                                      |
| Sanitary Sewer            | 332,786          | 415,987          | 2.3%                                      |
| Pollution Control         | 551,962          | 1,679,324        | 11.8%                                     |
| Capital                   | 1,164,139        | 2,492,804        | 7.9%                                      |
| <b>Gross Expenditures</b> | <b>2,994,457</b> | <b>5,708,150</b> | <b>6.7%</b>                               |
| Wastewater Revenue        | 978,051          | 1,160,299        | 1.7%                                      |
| <b>Net Expenditures</b>   | <b>2,016,046</b> | <b>4,547,851</b> | <b>8.5%</b>                               |

Table 5-2 summarizes the 2010-2020 operating budget forecast for wastewater services.

Table 5-2  
MUNICIPALITY OF PORT HOPE  
WASTEWATER OPERATING BUDGET FORECAST  
2009 Budget & 2010-2020 Forecast

| Description  | Forecast         |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|  | Budget 2009      | 2010             | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |
| <b>Expenditures</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Administration and Overhead Costs                                      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Administration   | 4,100            | 4,193            | 4,287            | 4,384            | 4,483            | 4,584            | 4,687            | 4,793            | 4,901            | 5,012            | 5,125            | 5,241            |
| Communications   | 9,700            | 9,919            | 10,143           | 10,372           | 10,606           | 10,845           | 11,090           | 11,340           | 11,586           | 11,858           | 12,125           | 12,399           |
| Insurance  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Utilities  | 360,000          | 368,124          | 376,431          | 384,926          | 393,612          | 402,484          | 411,577          | 420,865          | 430,362          | 440,074          | 450,004          | 460,159          |
| Conferences & Training   | 8,300            | 8,487            | 8,679            | 8,875            | 9,075            | 9,280            | 9,489            | 9,703            | 9,922            | 10,146           | 10,375           | 10,609           |
| New/Existing Debt (2010+ includes WW Portion of existing debt)         |                  | 80,357           | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        |
| Basecharge Reallocation  | (241,795)        | 474,760          | (469,603)        | (462,449)        | (453,399)        | (444,566)        | (435,927)        | (427,515)        | (419,325)        | (411,363)        | (403,633)        | (396,247)        |
| Subtotal Admin. & Overhead Costs                                       | 140,305          | 945,840          | 957,810          | 973,980          | 992,250          | 1,010,520        | 1,028,780        | 1,047,060        | 1,065,330        | 1,083,600        | 1,101,870        | 1,120,035        |
| Residential Equivalent Users   | 4,474            | 4,504            | 4,561            | 4,638            | 4,725            | 4,812            | 4,899            | 4,986            | 5,073            | 5,160            | 5,247            | 5,334            |
| <b>Annual Base Charge/Res. User</b>                                    | <b>31.36</b>     | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    |
| <b>Quarterly Base Charge/Res. User</b>                                 | <b>7.84</b>      | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     | <b>52.50</b>     |
| <b>Monthly Base Charge/Res. User</b>                                   | <b>2.61</b>      | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     | <b>17.50</b>     |
| <b>Sanitary Sewer Operating Costs</b>                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Salaries/Wages & Benefits (2010 Incl. 1/3 cost Engineering Allocation) | 89,900           | 195,762          | 200,180          | 204,697          | 209,316          | 214,040          | 218,870          | 223,809          | 228,859          | 234,024          | 239,305          | 244,705          |
| Sanitary Sewer   | 119,000          | 121,685          | 124,431          | 127,239          | 130,111          | 133,047          | 136,049          | 139,119          | 142,259          | 145,469          | 148,751          | 152,108          |
| Buildings, Equip. & Maintenance  | 15,000           | 15,338           | 15,685           | 16,039           | 16,400           | 16,771           | 17,149           | 17,536           | 17,932           | 18,336           | 18,750           | 19,173           |
| Subtotal Water Treatment Operating Costs                               | 223,900          | 332,786          | 340,296          | 347,975          | 355,827          | 363,857          | 372,068          | 380,464          | 389,050          | 397,829          | 406,806          | 415,987          |
| <b>Pollution Control Operating Costs</b>                               |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Salaries/Wages & Benefits  | 382,783          | 391,421          | 400,254          | 409,286          | 418,522          | 427,967          | 437,624          | 447,500          | 457,598          | 467,925          | 478,484          | 489,281          |
| Pollution Control  | 450,517          | 460,683          | 471,079          | 481,709          | 492,580          | 503,695          | 515,062          | 526,685          | 538,570          | 550,724          | 563,151          | 575,860          |
| Buildings, Equip. & Maintenance  | 161,500          | 165,144          | 168,871          | 172,682          | 176,579          | 180,563          | 184,638          | 188,805          | 193,065          | 197,422          | 201,877          | 206,433          |
| Vehicle Expenses   | 9,000            | 9,203            | 9,411            | 9,623            | 9,840            | 10,062           | 10,289           | 10,522           | 10,759           | 11,002           | 11,250           | 11,504           |
| Basecharge Reallocation  | 241,795          | (474,760)        | (469,603)        | (462,449)        | (453,399)        | (444,566)        | (435,927)        | (427,515)        | (419,325)        | (411,363)        | (403,633)        | (396,247)        |
| Subtotal Operating Costs   | 1,245,595        | 551,692          | 1,519,218        | 1,535,750        | 1,550,920        | 1,566,845        | 1,583,541        | 1,601,026        | 1,619,318        | 1,638,435        | 1,658,396        | 1,679,324        |
| <b>Capital Related Expenditures</b>                                    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Transfers to Capital   |                  |                  |                  |                  | 10,970           | 452,576          | 615,571          | 665,479          | 1,130,791        | 1,028,599        | 508,967          | 1,595,111        |
| Lifecycle Reserve Contribution   |                  | 1,078,528        | 269,358          | 432,371          | 605,306          | 363,836          | 418,568          | 605,448          | 397,573          | 779,563          | 1,603,204        | 812,082          |
| Repayment of Working Funds   |                  | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           |
| Contributions to Reserves/Reserve Funds                                | 421,700          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Subtotal-Capital Related Expenditures                                  | 421,700          | 1,164,139        | 354,970          | 517,983          | 701,888          | 902,024          | 1,119,750        | 1,356,539        | 1,613,975        | 1,893,774        | 2,197,782        | 2,492,804        |
| <b>Total Expenditures</b>  | <b>1,691,195</b> | <b>2,048,617</b> | <b>2,214,484</b> | <b>2,401,708</b> | <b>2,608,636</b> | <b>2,832,725</b> | <b>3,075,359</b> | <b>3,338,028</b> | <b>3,622,343</b> | <b>3,930,038</b> | <b>4,262,985</b> | <b>4,588,115</b> |
| <b>Revenues</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Water Administration & Service Fees                                    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Sewer Sales at Plant   |                  | 24,542           | 25,095           | 25,662           | 26,241           | 26,833           | 27,438           | 28,058           | 28,691           | 29,338           | 30,000           | 30,677           |
| Transfer From Reserves/Reserve Funds                                   | 281,858          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Investment Income  | 4,000            | 4,090            | 4,183            | 4,277            | 4,373            | 4,472            | 4,573            | 4,676            | 4,782            | 4,890            | 5,000            | 5,113            |
| Contribution From Working Funds  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Other  | 3,500            | 3,579            | 3,660            | 3,742            | 3,827            | 3,913            | 4,001            | 4,092            | 4,184            | 4,278            | 4,375            | 4,474            |
| Development Charge Repayment   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>Total Revenue</b>   | <b>313,358</b>   | <b>32,211</b>    | <b>32,938</b>    | <b>33,681</b>    | <b>34,441</b>    | <b>35,218</b>    | <b>36,013</b>    | <b>36,826</b>    | <b>37,657</b>    | <b>38,506</b>    | <b>39,375</b>    | <b>40,264</b>    |
| <b>Sewer Billing Recovery</b>  | <b>1,577,837</b> | <b>2,016,406</b> | <b>2,181,546</b> | <b>2,368,027</b> | <b>2,574,195</b> | <b>2,797,507</b> | <b>3,039,346</b> | <b>3,301,203</b> | <b>3,584,686</b> | <b>3,891,531</b> | <b>4,223,609</b> | <b>4,547,851</b> |

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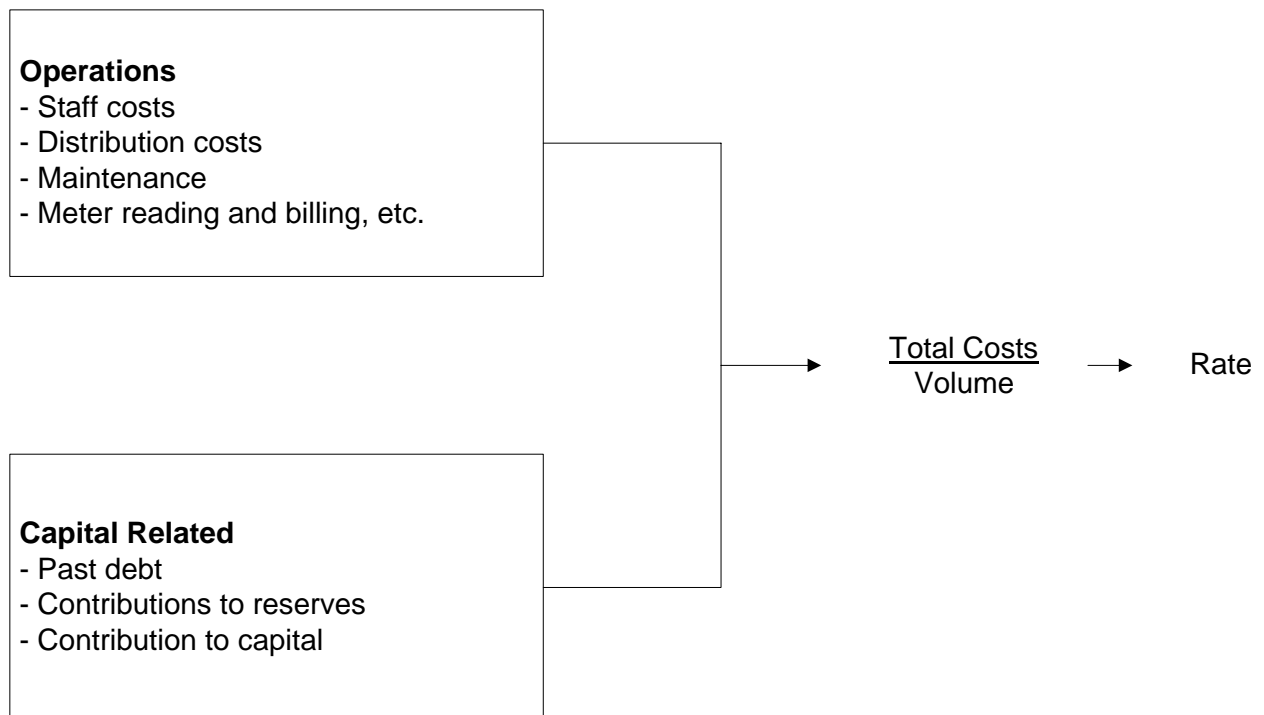
## 6. PRICING STRUCTURES

## 6. PRICING STRUCTURES

### 6.1 Introduction

Rates in their simplest form can be defined as total costs to maintain the utility function divided by the total expected volume to be generated for the period. Total costs are usually a combination of operating costs (e.g. staff costs, distribution costs, maintenance, administration, etc.) and capital-related costs (e.g. past debt to finance capital projects, transfers to reserves to finance future expenditures, etc.). The schematic below provides a simplified illustration of the rate calculation for water.

#### “ANNUAL COSTS”



These operating and capital expenditures will vary over time. An example of factors which will affect the expenditures over time are provided below:

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### Operations

- Inflation
- Increased maintenance as system ages
- Changes to Provincial legislation

### Capital Related

- New capital will be built as areas expand
- Replacement capital needed as system ages
- Financing of capital costs are a function of policy regarding reserves and direct financing from rates (pay as you go), debt and user pay methods (development charges, *Municipal Act*)

## **6.2 Alternative Pricing Structures**

Throughout Ontario, and as well, Canada, the use of pricing mechanisms varies between municipalities. The use of a particular form of pricing depends upon numerous factors, including Council preference, administrative structure, surplus/deficit system capacities, economic/demographic conditions, to name a few.

Municipalities within Ontario have two basic forms of collecting revenues for water purposes, those being through incorporation of the costs within the tax rate charged on property assessment and/or through the establishment of a specific water rate billed to the customer. Within the rate methods, there are four basic rate structures employed:

- Flat Rate
- Constant Rate
- Declining Block Rate
- Increasing (or Inverted) Block Rate.

The definitions and general application of the various methods are as follows:

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Property Assessment: This method incorporates the total costs of providing water into the general requisition or the assessment base of the municipality. This form of collection is a "wealth tax", as payment increases directly with the value of property owned and bears no necessary relationship to actual consumption. This form is easy to administer as the costs to be recovered are incorporated in the calculation for all general services, normally collected through property taxes.

Flat Rate: This rate is a constant charge applicable to all customers served. The charge is calculated by dividing the total number of user households and other entities (e.g. businesses) into the costs to be recovered. This method does not recognize differences in actual consumption but provides for a uniform spreading of costs across all users. Some municipalities define users into different classes of similar consumption patterns, that is a commercial user, residential user and industrial user, and charge a flat rate by class. Each user is then billed on a periodic basis. No meters are required to facilitate this method, but an accurate estimate of the number of users is required. This method ensures a set revenue for the collection period but is not sensitive to consumption, hence may cause a shortfall or surplus of revenues collected.

Constant Rate: This rate is a volume-based rate, in which the consumer pays the same price per unit consumed, regardless of the volume. The price per unit is calculated by dividing the total cost of the service by the total volume used by total consumers. The bill to the consumer climbs uniformly as the consumption increases. This form of rate requires the use of meters to record the volume consumed by each user. This method closely aligns the revenue recovery with consumption. Revenue collected varies directly with the consumption volume.

Declining Block Rates: This rate structure charges a successively lower price for set volumes, as consumption increases through a series of "blocks". That is to say that within set volume ranges, or blocks, the charge per unit is set at one rate. Within the next volume range the charge per unit decreases to lower rate, and so on. Typically, the first, or first and second blocks cover residential and light commercial uses. Subsequent blocks normally are used for heavier commercial and industrial uses. This rate structure requires the use of meters to record the volume consumed by each type of user. This method requires the collection and analysis of consumption patterns by user

classification to establish rates at a level which does not over or under collect revenue from rate payers.

Increasing or Inverted Block Rates: The increasing block rate works essentially the same way as the declining block rate, except that the price of water in successive blocks increases rather than declines. Under this method the consumer's bill rises faster with higher volumes used. This rate structure also requires the use of meters to record the volume consumed by each user. This method requires, as with the declining block structure, the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect from rate payers.

### **6.3 Assessment of Alternative Pricing Structures**

The adoption by a municipality or utility of any one particular pricing structure is normally a function of a variety of administrative, social, demographic and financial factors. The number of factors and the weighting each particular factor receives can vary between municipalities. The following is a review of some of the more prevalent factors:

#### Cost Recovery

Cost recovery is a prime factor in establishing a particular pricing structure. Costs can be loosely defined into different categories: operations; maintenance; capital; financing; administration. These costs often vary between municipalities and even within a municipality, based on consumption patterns, infrastructure age, economic growth, etc.

The pricing alternatives defined earlier can all achieve the cost recovery goal, but some do so more precisely than others. Fixed pricing structures, such as Property Assessment and Flat Rate, are established on the value of property or on the number of units present in the municipality, but do not adjust in accordance with consumption. Thus, if actual consumption for the year is greater than projected, the municipality incurs a higher cost of production, but the revenue base remains static (since it was determined at the beginning of the year), thus potentially providing a funding shortfall. Conversely, if the consumption level declines below projections, fixed pricing structures will produce more revenue than actual costs incurred.

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The other pricing methods (declining block, constant rate, increasing block) are consumption based and generally will generate revenues in proportion to actual consumption.

### Administration

Administration is defined herein as the staffing, equipment and supplies required to support the undertaking of a particular pricing strategy. This factor not only addresses the physical tangible requirements to support the collection of the revenues, but also the intangible requirements, such as policy development.

The easiest pricing structure to support is the Property Assessment structure. As municipalities undertake the process of calculating property tax bills and the collection process for their general services, the incorporation of the water costs into this calculation would have virtually no impact on the administrative process and structure.

The Flat Rate pricing structure is relatively easy to administer as well. It is normally calculated to collect a set amount, either on a monthly, quarterly, semi annual or annual basis and is billed directly to the customer. The impact on administration centres mostly on the accounts receivable or billing area of the municipality, but normally requires minor additional staff or operating costs to undertake.

The three remaining methods, those being Increasing Block Rate, Constant Rate and Declining Block Rate, have a more dramatic effect on administration. These methods are dependent upon actual consumption and hence involve a major structure in place to administer. First, meters must be installed in all existing units in the municipality and units to be subsequently built must be required to include these meters. Second, meter readings must be undertaken periodically. Hence staff must be available for this purpose or a service contract must be negotiated. Third, the billings process must be expanded to accommodate this process. Billing must be done per a defined period, requiring staff to produce the bills. Lastly, either through increased staffing or by service contract, an annual maintenance program must be set up to ensure meters are working effectively in recording consumed volumes.

The benefit derived from the installation of meters is that information on consumption patterns becomes available. This information provides benefit to administration in calculating rates

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which will ensure revenue recovery. Additionally, when planning what services are to be constructed in future years, the municipality or utility has documented consumption patterns distinctive to its own situation, which can be used to project sizing of growth-related works.

### Equity

Equity is always a consideration in the establishment of pricing structures but its definition can vary depending on a municipality's circumstances and based on the subjective interpretation of those involved. For example: is the price charged to a particular class of rate payer consistent with those of a similar class in surrounding municipalities; through the pricing structure does one class of rate payer pay more than another class; should one pay based on ability to pay, or on the basis that a unit of water costs the same to supply no matter who consumes it; etc. There are many interpretations. Equity therefore must be viewed broadly in light of many factors as part of achieving what is best for the municipality as a whole.

### Conservation

In today's society, conservation of natural resources is increasingly being more highly valued. Controversy continuously focuses on the preservation of non-renewable resources and on the proper management of renewable resources. Conservation is also a concept which applies to a municipality facing physical limitations in the amount of water which can be supplied to an area. As well, financial constraints can encourage conservation in a municipality where the cost of providing each additional unit is increasing.

Pricing structures such as property assessment and flat rate do not, in themselves, encourage conservation. In fact, depending on the price which is charged, they may even encourage resource "squandering," either because consumers, without the price discipline, consume water at will, or the customer wants to get his money's worth and hence adopts more liberal consumption patterns. The fundamental reason for this is that the price paid for the service bears no direct relationship to the volume consumed and hence is viewed as a "tax," instead of being viewed as the price of a purchased commodity.

The Declining Block Rate provides a decreasing incentive towards conservation. By creating awareness of volumes consumed, the consumer can reduce his total costs by restricting

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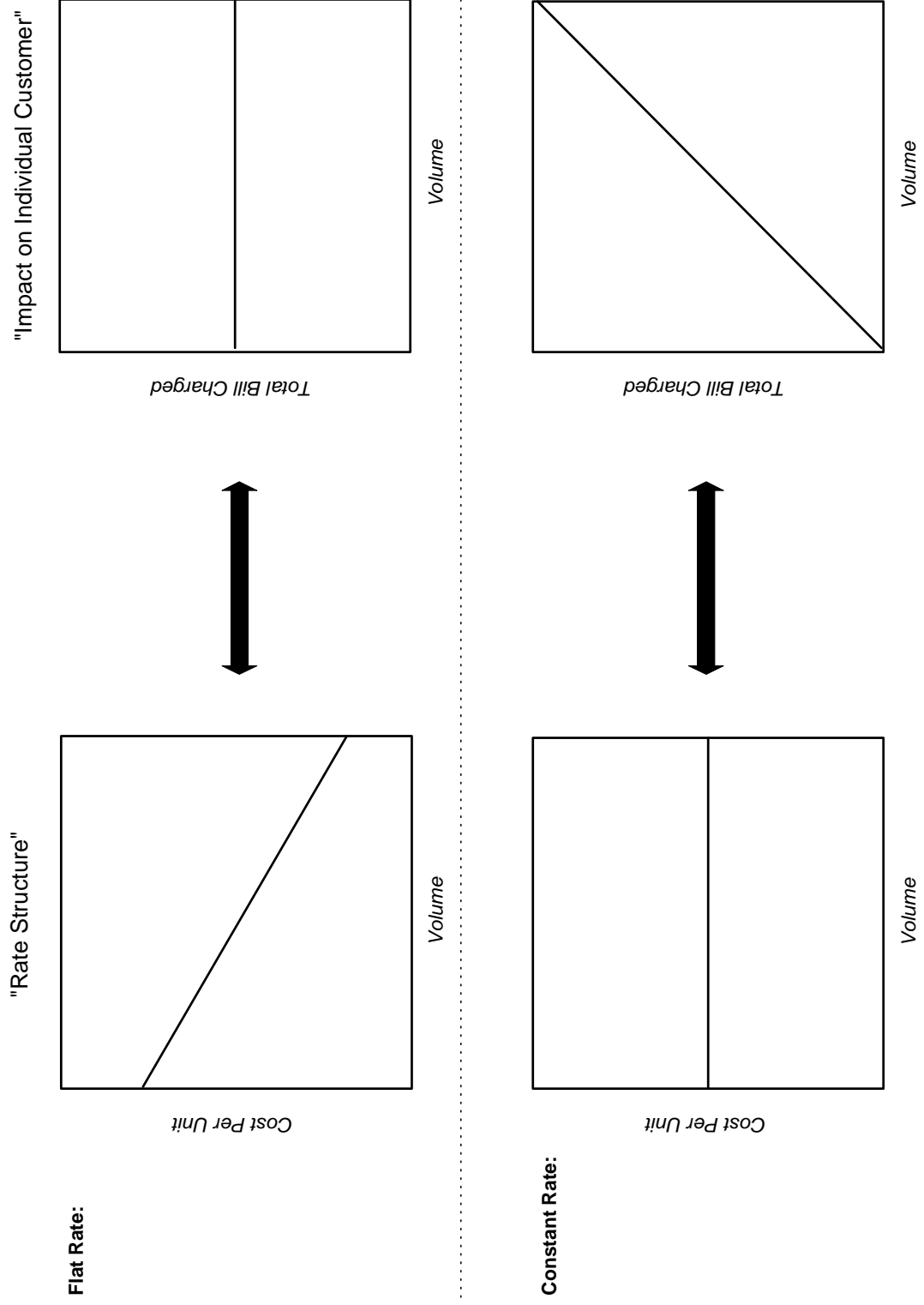
consumption; however the incentive lessens as more water is consumed, because the marginal cost per unit declines as the consumer enters the next block pricing range. Similarly, those whose consumption level is at the top end of a block have reduced incentive to reduce consumption.

The Constant Rate structure presents the customer with a linear relationship between consumption and the cost thereof. As the consumer pays a fixed cost per unit, his bill will vary directly with the amount consumed. This method presents tangible incentive for consumers to conserve water. As metering provides direct feedback as to usage patterns and the consumer has direct control over the total amount paid for the commodity, the consumer is encouraged to use only those volumes that are reasonably required.

The Inverted Block method presents the most effective pricing method for encouraging conservation. Through this method, the price per unit consumed increases as total volumes consumed grow. The consumer becomes aware of consumption through metering with the charges increasing dramatically with usage. Hence, there normally is an awareness that exercising control over usage can produce significant savings. This method not only encourages conservation methods, but may also penalizes legitimate high volume users if not properly structured.

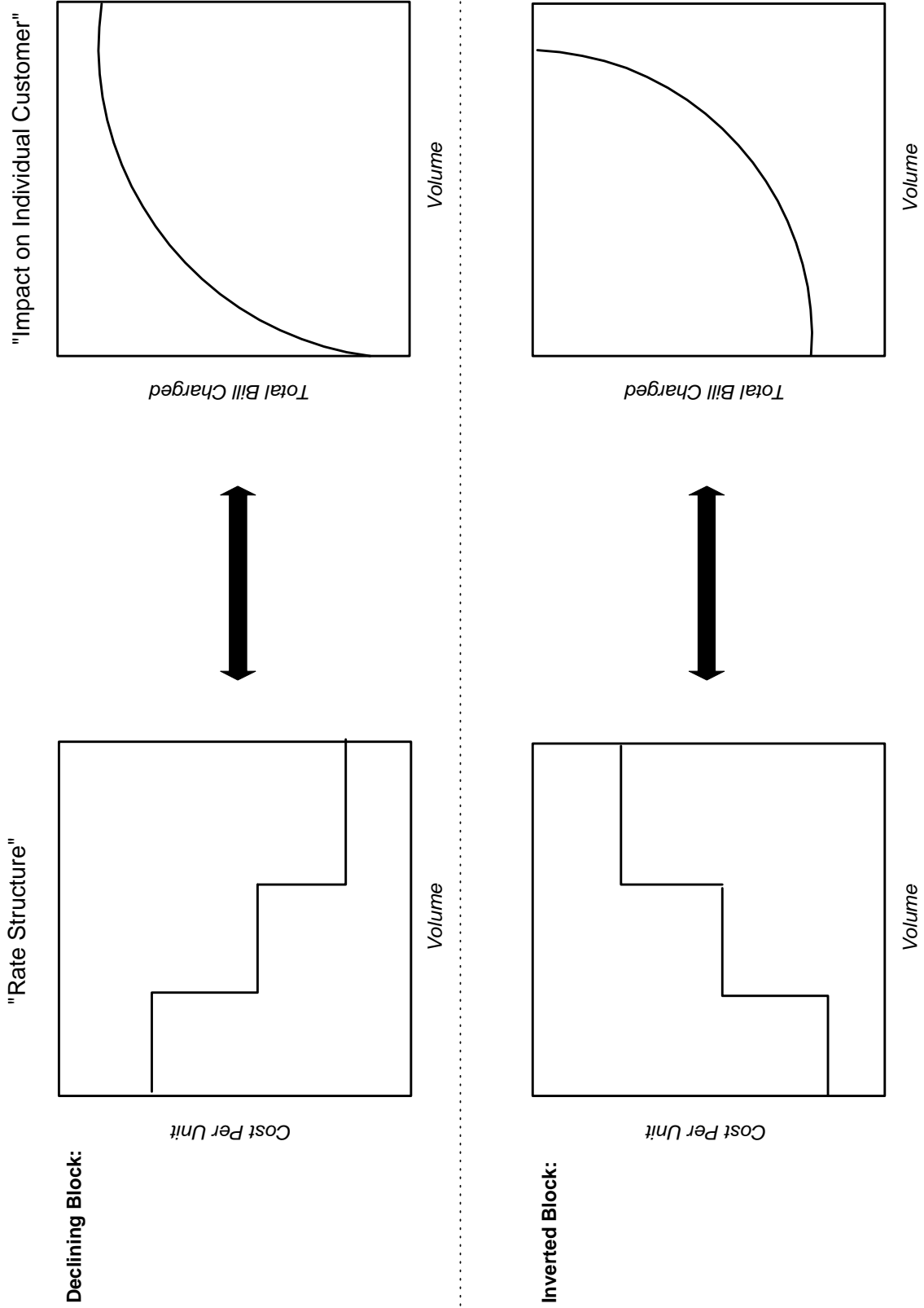
Figure 6-1 provides a schematic representation of the various rate structures (note property tax as a basis for revenue recovery has not been presented for comparison, as the proportion of taxes paid varies in direct proportion to the market value of the property). The graphs on the left-hand side of the figure present the cost per unit for each additional amount of water consumed. The right-hand side of the figure presents the impact on the customer's bill as the volume of water increases. The schematic is summarized below for each rate structure.

**FIGURE 6-1**  
**WATER RATE PRICING CONCEPTS**



Drawing4

**FIGURE 6-1 (Cont'd)**  
**WATER RATE PRICING CONCEPTS**



| RATE STRUCTURE              | COST PER UNIT AS VOLUME CONSUMPTION INCREASES             | IMPACT ON CUSTOMER BILL AS VOLUME CONSUMPTION INCREASES     |
|-----------------------------|---|---|
| Flat Rate                   | Cost per unit decreases as more volume consumed           | Bill remains the same no matter how much volume is consumed |
| Constant Rate               | Cost per unit remains the same                            | Bill increases in direct proportion to consumption          |
| Declining Block             | Cost per unit decreases as threshold targets are achieved | Bill increases at a slower rate as volumes increase         |
| Increasing (Inverted) Block | Cost per unit increases as threshold targets are achieved | Bill increases at a faster rate as volumes increase         |

## 6.4 Rate Structures in Ontario

In a recent survey of over 150 municipalities (approximately half of the municipalities who provide water and/or sewer), all forms of rate structures are in use by Ontario municipalities. The most common rate structure is the constant rate (for metered municipalities). Most municipalities (approximately 85%) who have volume rate structures also impose a base monthly charge.

Historically, the development of a base charge often reflected either the recovery of meter reading/billing/collection costs, plus administration or those costs plus certain fixed costs (such as capital reserve contributions or debt repayment). More recently, many municipalities have started to establish base charges based on ensuring a secure portion of the revenue stream which does not vary with volume consumption. Selection of the quantum of the base charge is a matter of policy selected by individual municipalities.

## 6.5 Recommended Rate Structures

The Municipality presently uses an increasing block volumetric rate with a quarterly base charge to recover the costs associated with providing municipal water and wastewater services. As summarized in the introductory chapter to this report, the minimum thresholds for each successive consumption block have been adjusted to better reflect service demands and conservation objectives. The following table summarizes the allocation of water customers within the existing rate structure and the proposed rate structure.

| <b>Current Consumption Block</b>             | <b>Rate Structure User Allocation</b> | <b>Proposed Consumption Block</b>           | <b>Rate Structure User Allocation</b> |
|--|---------------------------------------|---|---------------------------------------|
| First Block - 0-80m <sup>3</sup>             | 88%                                   | First Block - 0-20m <sup>3</sup>            | 27%                                   |
| Second Block - 81-340m <sup>3</sup>          | 10%                                   | Second Block - 21-60m <sup>3</sup>          | 51%                                   |
| Third Block - Greater than 340m <sup>3</sup> | 2%                                    | Third Block - Greater than 60m <sup>3</sup> | 22%                                   |
| <b>TOTAL</b>                                 | <b>100%</b>                           | <b>TOTAL</b>                                | <b>100%</b>                           |

Moreover, the base charge component of the rate structure has been reoriented to recover the fixed costs of annual debt servicing requirements as opposed to administration and overhead fixed costs. This is being recommended to provide for greater revenue certainty for those fixed cost obligations which benefit all service customers.

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## **7. ANALYSIS OF WATER AND WASTEWATER RATES AND POLICY MATTERS**

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## **7. ANALYSIS OF WATER AND WASTEWATER RATES AND POLICY MATTERS**

### **7.1 Introduction**

To summarize the analysis undertaken thus far, Chapter 2 reviewed capital-related issues and responds to the provincial directives to maintain and upgrade infrastructure to required levels. Chapter 4 provided a review of capital financing options to which rate-based funds (i.e. reserve/capital contributions) will form part of the financing plan for capital replacement, with reliance on grant funding and debt financing over the forecast period. Chapter 5 established the 10-year operating forecast of expenditures including provision for phasing in of annual lifecycle capital replacement reserve contributions by the end of the forecast period. Non-rate revenues to assist in offsetting the charges for volumetric rates were also identified in Chapter 5. This chapter will provide for the calculation of the rates over the forecast period 2010-2020. These calculations will be based on the net operating expenditures provided in Chapter 5, divided by the water consumption forecast and wastewater volumes provided in Section 1.6.

### **7.2 Water Rates**

Based on the rate structure recommendations in Section 6.5, the associated rate forecast for water services is summarized in Table 7-1. The net recoverable expenditures from Table 5-1 (the product of total expenditures less the non-rate revenues) are divided by the consumption forecast to calculate the consumptive rate. The quarterly base charge rate is imposed by meter size and is projected to remain constant over the forecast period.

Detailed calculations are provided in Appendix B to this report for the water system.

TABLE 7-1  
MUNICIPALITY OF PORT HOPE  
WATER RATE FORECAST  
2010-2020

|  | CONSUMPTIVE RATE FORECAST |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--|---------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|  | 2010                      | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |
| <b>Water Billing Recovery</b>  | 2,565,803                 | 2,685,279        | 2,818,191        | 2,961,409        | 3,111,270        | 3,268,066        | 3,432,102        | 3,603,695        | 3,783,176        | 3,970,890        | 4,139,863        |
| <b>Water Consumption by Interval</b>                                   |                           |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| 0-20   | 280,110                   | 284,670          | 290,630          | 297,790          | 304,750          | 311,710          | 318,670          | 325,630          | 332,590          | 339,550          | 342,990          |
| 21-60  | 329,336                   | 338,456          | 350,776          | 364,696          | 378,616          | 392,536          | 406,456          | 420,376          | 434,296          | 448,216          | 455,096          |
| 60-and greater   | 1,008,038                 | 1,011,158        | 1,014,278        | 1,017,398        | 1,020,518        | 1,023,638        | 1,026,758        | 1,029,878        | 1,032,998        | 1,036,118        | 1,037,678        |
| <b>Total Water Consumption (m<sup>3</sup>)</b>                         | <b>1,617,485</b>          | <b>1,634,285</b> | <b>1,655,885</b> | <b>1,679,885</b> | <b>1,703,885</b> | <b>1,727,885</b> | <b>1,751,885</b> | <b>1,775,885</b> | <b>1,799,885</b> | <b>1,823,885</b> | <b>1,835,765</b> |
| <b>Increasing Block Rate</b>   |                           |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| First Block - 0-20m <sup>3</sup> (\$/m <sup>3</sup> )                  | 1.16                      | 1.21             | 1.25             | 1.30             | 1.35             | 1.40             | 1.45             | 1.50             | 1.56             | 1.62             | 1.68             |
| Second Block - 21m <sup>3</sup> -60m <sup>3</sup> (\$/m <sup>3</sup> ) | 1.46                      | 1.51             | 1.57             | 1.62             | 1.68             | 1.75             | 1.81             | 1.88             | 1.95             | 2.02             | 2.10             |
| Third Block - Greater than 60 m <sup>3</sup> (\$/m <sup>3</sup> )      | 1.75                      | 1.81             | 1.88             | 1.95             | 2.02             | 2.10             | 2.18             | 2.26             | 2.34             | 2.43             | 2.52             |

| Meter Size | Quarterly Base Charge |
|------------|-----------------------|
| 5/8"       | 38.25                 |
| 3/4"       | 45.90                 |
| 1"         | 61.20                 |
| 1 1/4"     | 76.50                 |
| 1 1/2"     | 91.80                 |
| 2"         | 122.40                |
| 3"         | 183.60                |
| 4"         | 244.80                |
| 6"         | 367.20                |
| 8"         | 489.60                |

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### 7.3 Wastewater Rates

Similar to the water rate forecast, the anticipated rates for the wastewater system are summarized in Table 7-2. The wastewater base charges will continue to be imposed by meter size and will remain constant over the forecast period consistent with debt repayment levels. The consumptive rates (\$/m<sup>3</sup>) represent the net expenditure forecast divided by the anticipated wastewater volumes.

Detailed calculations are provided in Appendix B to this report for the wastewater system.

TABLE 7-2  
MUNICIPALITY OF PORT HOPE  
WASTEWATER RATE FORECAST  
2010-2020

|  | Year             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|  | 2010             | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |
| <b>CONSUMPTIVE RATE FORECAST</b>                         |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>Sewer Billing Recovery</b>                            | 2,016,406        | 2,181,546        | 2,368,027        | 2,574,195        | 2,797,507        | 3,039,346        | 3,301,203        | 3,584,686        | 3,891,531        | 4,223,609        | 4,547,857        |
| <b>Wastewater Customer Water Consumption by Interval</b> |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| 0-80   | 229,465          | 234,025          | 240,185          | 247,145          | 254,105          | 261,065          | 268,025          | 274,985          | 281,945          | 288,905          | 292,345          |
| 81-340   | 259,691          | 268,811          | 281,131          | 295,051          | 308,971          | 322,891          | 336,811          | 350,731          | 364,651          | 378,571          | 385,451          |
| 341-and greater  | 863,508          | 866,628          | 869,748          | 872,868          | 875,988          | 879,108          | 882,228          | 885,348          | 888,468          | 891,588          | 893,148          |
| <b>Total Waste Water Flow (m3)</b>                       | <b>1,352,665</b> | <b>1,369,465</b> | <b>1,391,065</b> | <b>1,415,065</b> | <b>1,439,065</b> | <b>1,463,065</b> | <b>1,487,065</b> | <b>1,511,065</b> | <b>1,535,065</b> | <b>1,559,065</b> | <b>1,570,945</b> |
| <b>Increasing Block Rate</b>                             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| First Block - 0-20m3 (\$/m3)                             | 1.09             | 1.17             | 1.25             | 1.34             | 1.43             | 1.53             | 1.64             | 1.76             | 1.88             | 2.01             | 2.15             |
| Second Block - 21m3-60m3 (\$/m3)                         | 1.36             | 1.46             | 1.56             | 1.67             | 1.79             | 1.92             | 2.05             | 2.19             | 2.35             | 2.51             | 2.69             |
| Third Block - Greater than 60 m3 (\$/m3)                 | 1.64             | 1.75             | 1.87             | 2.01             | 2.15             | 2.30             | 2.46             | 2.63             | 2.82             | 3.02             | 3.23             |

| Meter Size | Quarterly Base Charge |
|------------|-----------------------|
| 5/8"       | 52.50                 |
| 3/4"       | 63.00                 |
| 1"         | 84.00                 |
| 1 1/4"     | 105.00                |
| 1 1/2"     | 126.00                |
| 2"         | 168.00                |
| 3"         | 252.00                |
| 4"         | 336.00                |
| 6"         | 504.00                |
| 8"         | 672.00                |

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## 7.4 Water and Wastewater Rate Implementation

Based on discussions with staff regarding the forecast water and wastewater rates, it was determined that the consumptive rates should be adjusted semi-annually to provide for greater revenue certainty. This policy is a prudent measure, particularly in light of recent capital cost inflation rates and the Municipality's desire to reduce the need for debt and working funds interim financing, particularly for capital replacement needs. As such Table 7-3 provides a summary of the rates that would be implemented semi-annually at half of the forecast annual increase, based on the assumptions of the financial plan herein.

Table 7-4 provides a summary of the annual bill impact on a cross-section of customers for 2010. The cross-section of customers includes small consuming residential users, typical family customers, general service users, and large consuming industrial. Generally, the proposed rates will have a greater impact initially on small consuming water users and lower impacts on higher consuming users. This is reflective of the higher quarterly base charges being proposed, which recover the capital debt costs for major infrastructure items benefiting all service users. For larger consuming water users, the realignment of consumption intervals to better reflect service demands will provide for higher cost recovery levels and encourage conservation efforts.

TABLE 7-3a  
MUNICIPALITY OF PORT HOPE  
Water Semi-Annual Rate Forecast  
2010-2020

| WATER RATES  | Year   |        |        |        |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | Jan-10 | Jun-10 | Jan-11 | Jun-11 | Jan-12 | Jun-12 | Jan-13 | Jun-13 | Jan-14 | Jun-14 | Jan-15 | Jun-15 |        |
| <b>Quarterly Base Charge by Meter Size</b>                       |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 5/8"   | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  |
| 3/4"   | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  |
| 1"   | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  |
| 1 1/4"   | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  |
| 1 1/2"   | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  |
| 2"   | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 |
| 3"   | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 |
| 4"   | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 |
| 6"   | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 |
| 8"   | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 |
| <b>Water Consumptive Rates</b>                                   |        |        |        |        |        |        |        |        |        |        |        |        |        |
| First Block - 0-20m <sup>3</sup> (\$/m <sup>3</sup> )            | 1.16   | 1.19   | 1.21   | 1.23   | 1.25   | 1.28   | 1.30   | 1.32   | 1.35   | 1.37   | 1.40   | 1.42   | 1.42   |
| Second Block - 21-60m <sup>3</sup> (\$/m <sup>3</sup> )          | 1.46   | 1.48   | 1.51   | 1.54   | 1.57   | 1.59   | 1.62   | 1.65   | 1.68   | 1.72   | 1.75   | 1.78   | 1.78   |
| Third Block - Greater than 60m <sup>3</sup> (\$/m <sup>3</sup> ) | 1.75   | 1.78   | 1.81   | 1.84   | 1.88   | 1.91   | 1.95   | 1.98   | 2.02   | 2.06   | 2.10   | 2.14   | 2.14   |

| WATER RATES  | Year   |        |        |        |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | Jan-16 | Jun-16 | Jan-17 | Jun-17 | Jan-18 | Jun-18 | Jan-19 | Jun-19 | Jan-20 | Jun-20 | Jan-21 | Jun-21 |        |
| <b>Quarterly Base Charge by Meter Size</b>                       |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 5/8"   | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  | 38.25  |
| 3/4"   | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  | 45.90  |
| 1"   | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  | 61.20  |
| 1 1/4"   | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  | 76.50  |
| 1 1/2"   | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  | 91.80  |
| 2"   | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 | 122.40 |
| 3"   | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 | 183.60 |
| 4"   | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 | 244.80 |
| 6"   | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 | 367.20 |
| 8"   | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 | 489.60 |
| <b>Water Consumptive Rates</b>                                   |        |        |        |        |        |        |        |        |        |        |        |        |        |
| First Block - 0-20m <sup>3</sup> (\$/m <sup>3</sup> )            | 1.45   | 1.48   | 1.50   | 1.53   | 1.56   | 1.59   | 1.62   | 1.65   | 1.68   | 1.71   | 1.74   | 1.77   | 1.77   |
| Second Block - 21-60m <sup>3</sup> (\$/m <sup>3</sup> )          | 1.81   | 1.85   | 1.88   | 1.92   | 1.95   | 1.99   | 2.02   | 2.06   | 2.10   | 2.14   | 2.17   | 2.21   | 2.21   |
| Third Block - Greater than 60m <sup>3</sup> (\$/m <sup>3</sup> ) | 2.18   | 2.22   | 2.26   | 2.30   | 2.34   | 2.38   | 2.43   | 2.47   | 2.52   | 2.56   | 2.60   | 2.64   | 2.64   |

TABLE 7-3b  
MUNICIPALITY OF PORT HOPE  
Wastewater Semi-Annual Rate Forecast  
2010-2020

| WASTEWATER RATES   | Year   |        |        |        |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | Jan-10 | Jun-10 | Jan-11 | Jun-11 | Jan-12 | Jun-12 | Jan-13 | Jun-13 | Jan-14 | Jun-14 | Jan-15 | Jun-15 |        |
| Quarterly Base Charge by Meter Size                              |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 5/8"   | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  |
| 3/4"   | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  |
| 1"   | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  |
| 1 1/4"   | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 |
| 1 1/2"   | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 |
| 2"   | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 |
| 3"   | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 |
| 4"   | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 |
| 6"   | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 |
| 8"   | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 |
| Wastewater Consumptive Rates                                     |        |        |        |        |        |        |        |        |        |        |        |        |        |
| First Block - 0-20m <sup>3</sup> (\$/m <sup>3</sup> )            | 1.09   | 1.13   | 1.17   | 1.21   | 1.25   | 1.29   | 1.34   | 1.38   | 1.43   | 1.48   | 1.53   | 1.59   | 1.59   |
| Second Block - 21-60m <sup>3</sup> (\$/m <sup>3</sup> )          | 1.36   | 1.41   | 1.46   | 1.51   | 1.56   | 1.62   | 1.67   | 1.73   | 1.79   | 1.85   | 1.92   | 1.98   | 1.98   |
| Third Block - Greater than 60m <sup>3</sup> (\$/m <sup>3</sup> ) | 1.64   | 1.69   | 1.75   | 1.81   | 1.87   | 1.94   | 2.01   | 2.08   | 2.15   | 2.22   | 2.30   | 2.38   | 2.38   |

| WASTEWATER RATES   | Year   |        |        |        |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | Jan-16 | Jun-16 | Jan-17 | Jun-17 | Jan-18 | Jun-18 | Jan-19 | Jun-19 | Jan-20 | Jun-20 | Jan-21 | Jun-21 |        |
| Quarterly Base Charge by Meter Size                              |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 5/8"   | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  | 52.50  |
| 3/4"   | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  | 63.00  |
| 1"   | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  | 84.00  |
| 1 1/4"   | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 |
| 1 1/2"   | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 | 126.00 |
| 2"   | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 | 168.00 |
| 3"   | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 | 252.00 |
| 4"   | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 | 336.00 |
| 6"   | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 | 504.00 |
| 8"   | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 | 672.00 |
| Wastewater Consumptive Rates                                     |        |        |        |        |        |        |        |        |        |        |        |        |        |
| First Block - 0-20m <sup>3</sup> (\$/m <sup>3</sup> )            | 1.64   | 1.70   | 1.76   | 1.82   | 1.88   | 1.95   | 2.01   | 2.08   | 2.15   | 2.23   | 2.31   | 2.38   | 2.38   |
| Second Block - 21-60m <sup>3</sup> (\$/m <sup>3</sup> )          | 2.05   | 2.12   | 2.19   | 2.27   | 2.35   | 2.43   | 2.51   | 2.60   | 2.69   | 2.78   | 2.87   | 2.96   | 2.96   |
| Third Block - Greater than 60m <sup>3</sup> (\$/m <sup>3</sup> ) | 2.46   | 2.55   | 2.63   | 2.73   | 2.82   | 2.92   | 3.02   | 3.12   | 3.23   | 3.34   | 3.44   | 3.54   | 3.54   |

TABLE 7-4  
MUNICIPALITY OF PORT HOPE  
Comparison of Water and Wastewater Annual Charges

| Description                              | Avg. Annual Consumption (in m3) | Existing Rate Structure     |                                  |                                   | Proposed Rates              |                                  |                                   | TOTAL CHANGE     |                 |
|--|---------------------------------|-----------------------------|----------------------------------|-----------------------------------|-----------------------------|----------------------------------|-----------------------------------|------------------|-----------------|
|  |                                 | Existing 2009 Water Billing | Existing 2009 Wastewater Billing | TOTAL 2009 Existing Water/WW Bill | Proposed 2010 Water Billing | Proposed 2010 Wastewater Billing | TOTAL 2010 Proposed Water/WW Bill | Water/WW Bill \$ | Water/WW Bill % |
| <b>Residential Users</b>                 |                                 |                             |                                  |                                   |                             |                                  |                                   |                  |                 |
| Single Household (5/8")                  | 80                              | 123                         | 119                              | 242                               | 246                         | 297                              | 543                               | 301              | 124%            |
| Couple Household (5/8")                  | 160                             | 199                         | 216                              | 415                               | 363                         | 406                              | 769                               | 354              | 85%             |
| Family of 3 (5/8")                       | 240                             | 275                         | 313                              | 588                               | 479                         | 515                              | 994                               | 407              | 69%             |
| Family of 4 (5/8")                       | 320                             | 351                         | 432                              | 784                               | 619                         | 646                              | 1,265                             | 481              | 61%             |
| Large Family of 4+ (5/8")                | 400                             | 434                         | 516                              | 950                               | 758                         | 777                              | 1,535                             | 585              | 62%             |
| <b>Non-Residential Users<sup>1</sup></b> |                                 |                             |                                  |                                   |                             |                                  |                                   |                  |                 |
| Small Retail (1")                        | 188                             | 249                         | 256                              | 505                               | 495                         | 571                              | 1,066                             | 561              | 111%            |
| General Service (2")                     | 3,229                           | 6,289                       | 7,922                            | 14,211                            | 6,035                       | 5,865                            | 11,900                            | (2,311)          | -16%            |
| Large Industrial (6")                    | 32,334                          | 62,809                      | 80,012                           | 142,821                           | 57,842                      | 54,811                           | 112,652                           | (30,169)         | -21%            |

Note:

1. Based on Actual/Est. 2009 consumption

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## 8. RECOMMENDATIONS

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## 8. RECOMMENDATIONS

As presented within this report, capital and operating expenditures have been identified and forecasted over a ten-year period for water and wastewater services. In addition, a long-term lifecycle plan has been provided consistent with the principles of SWSSA and a financial plan has been developed consistent with O.Reg 453/07 requirements (note: full accrual presentation to be provided).

Based upon the foregoing, the following recommendations are put forth for Council's consideration:

1. That Council consider, for adoption annually, the rates provided in Section 7.2 and 7.3 for the water and wastewater systems with implementation semi-annually;
2. That Council consider and approve the financial plan for water and wastewater as provided in Chapters 2 and 4 (capital) and Chapter 5 (operating).
3. That the Council approved financial plan be reported in a full accrual format for submission to the Province as required under O.Reg. 453/07 of the *Safe Drinking Water Act*.

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**APPENDIX A**  
**WATER AND WASTEWATER SYSTEM INVENTORY DATA**

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-1086                      | 1856              | CI                 | 200                     | 44.31                | 15,780                           | 1,894            | 17,673     | 1936                      | Cap. Forecast                 |
| P-518                       | 1856              | CI                 | 200                     | 151.44               | 74,795                           | 8,975            | 83,770     | 1936                      | Cap. Forecast                 |
| P-157                       | 1920              | GAL                | 50                      | 195.48               | 33,301                           | 3,996            | 37,298     | 2000                      | Cap. Forecast                 |
| P-312                       | 1920              | GAL                | 50                      | 24.00                | 5,437                            | 652              | 6,089      | 2000                      | Cap. Forecast                 |
| P-359                       | 1920              | GAL                | 50                      | 45.03                | 10,401                           | 1,248            | 11,649     | 2000                      | Cap. Forecast                 |
| P-511                       | 1920              | GAL                | 50                      | 203.31               | 43,672                           | 5,241            | 48,913     | 2000                      | Cap. Forecast                 |
| P-887                       | 1920              | GAL                | 50                      | 88.42                | 21,142                           | 2,537            | 23,679     | 2000                      | Cap. Forecast                 |
| P-440                       | 1925              | CI                 | 150                     | 132.17               | 45,014                           | 5,402            | 50,415     | 2005                      | Cap. Forecast                 |
| P-871                       | 1925              | CI                 | 100                     | 170.85               | 44,026                           | 5,283            | 49,309     | 2005                      | Cap. Forecast                 |
| P-29                        | 1926              | CI                 | 100                     | 114.10               | 31,605                           | 3,793            | 35,397     | 2006                      | Cap. Forecast                 |
| P-729                       | 1926              | CI                 | 150                     | 257.33               | 102,815                          | 12,338           | 115,153    | 2006                      | Cap. Forecast                 |
| P-827                       | 1926              | CI                 | 150                     | 2.66                 | 2,496                            | 300              | 2,795      | 2006                      | Cap. Forecast                 |
| P-850                       | 1926              | CI                 | 150                     | 299.40               | 106,103                          | 12,732           | 118,836    | 2006                      | Cap. Forecast                 |
| P-930                       | 1927              | CI                 | 100                     | 82.23                | 24,088                           | 2,891            | 26,978     | 2007                      | Cap. Forecast                 |
| P-1167                      | 1928              | GAL                | 19                      | 3.90                 | 1,165                            | 140              | 1,304      | 2008                      | Cap. Forecast                 |
| P-201A                      | 1928              | CI                 | 100                     | 107.87               | 53,423                           | 6,411            | 59,834     | 2008                      | Cap. Forecast                 |
| P-36                        | 1928              | CI                 | 100                     | 115.89               | 38,801                           | 4,656            | 43,457     | 2008                      | Cap. Forecast                 |
| P-432                       | 1928              | CI                 | 150                     | 132.60               | 65,074                           | 7,809            | 72,882     | 2008                      | Cap. Forecast                 |
| P-485                       | 1928              | CI                 | 150                     | 45.32                | 17,282                           | 2,074            | 19,356     | 2008                      | Cap. Forecast                 |
| P-535                       | 1928              | CI                 | 150                     | 19.02                | 5,981                            | 718              | 6,698      | 2008                      | Cap. Forecast                 |
| P-717                       | 1928              | GAL                | 19                      | 58.88                | 19,757                           | 2,371            | 22,128     | 2008                      | Cap. Forecast                 |
| P-719                       | 1928              | CI                 | 150                     | 58.02                | 28,068                           | 3,368            | 31,436     | 2008                      | Cap. Forecast                 |
| P-856                       | 1928              | CI                 | 150                     | 61.16                | 23,984                           | 2,878            | 26,862     | 2008                      | Cap. Forecast                 |
| P-894                       | 1928              | CI                 | 150                     | 96.80                | 24,981                           | 2,998            | 27,979     | 2008                      | Cap. Forecast                 |
| P-281                       | 1929              | CI                 | 150                     | 47.67                | 19,380                           | 2,326            | 21,705     | 2009                      | Cap. Forecast                 |
| P-324                       | 1929              | CI                 | 100                     | 63.62                | 22,647                           | 2,718            | 25,365     | 2009                      | Cap. Forecast                 |
| P-386                       | 1929              | CI                 | 150                     | 56.63                | 24,061                           | 2,887            | 26,948     | 2009                      | Cap. Forecast                 |
| P-398                       | 1929              | CI                 | 25                      | 153.31               | 32,327                           | 3,879            | 36,206     | 2009                      | Cap. Forecast                 |
| P-498                       | 1929              | CI                 | 150                     | 77.78                | 28,222                           | 3,387            | 31,609     | 2009                      | Cap. Forecast                 |
| P-527                       | 1929              | CI                 | 150                     | 7.76                 | 3,583                            | 430              | 4,013      | 2009                      | Cap. Forecast                 |
| P-601                       | 1929              | CI                 | 150                     | 155.04               | 63,662                           | 7,639            | 71,302     | 2009                      | Cap. Forecast                 |
| P-629                       | 1929              | CI                 | 150                     | 12.07                | 6,933                            | 832              | 7,765      | 2009                      | Cap. Forecast                 |
| P-750                       | 1929              | CI                 | 100                     | 188.27               | 52,192                           | 6,263            | 58,455     | 2009                      | Cap. Forecast                 |
| P-815                       | 1929              | CI                 | 100                     | 26.62                | 6,544                            | 785              | 7,329      | 2009                      | Cap. Forecast                 |
| P-867                       | 1929              | CI                 | 100                     | 56.82                | 14,525                           | 1,743            | 16,267     | 2009                      | Cap. Forecast                 |
| P-1005                      | 1930              | CI                 | 100                     | 3.70                 | 2,305                            | 277              | 2,581      | 2010                      | Cap. Forecast                 |
| P-1027                      | 1930              | CI                 | 150                     | 33.80                | 20,476                           | 2,457            | 22,933     | 2010                      | Cap. Forecast                 |
| P-1054                      | 1930              | CI                 | 100                     | 1.55                 | 2,677                            | 321              | 2,998      | 2010                      | Cap. Forecast                 |
| P-1064                      | 1930              | CI                 | 100                     | 97.45                | 32,147                           | 3,858            | 36,004     | 2010                      | Cap. Forecast                 |
| P-1065                      | 1930              | GAL                | 25                      | 48.57                | 21,608                           | 2,593            | 24,202     | 2010                      | Cap. Forecast                 |
| P-1075                      | 1930              | GAL                | 25                      | 2.96                 | 1,331                            | 160              | 1,491      | 2010                      | Cap. Forecast                 |
| P-1108                      | 1930              | CI                 | 100                     | 61.99                | 23,888                           | 2,867            | 26,754     | 2010                      | Cap. Forecast                 |
| P-1132                      | 1930              | CI                 | 100                     | 16.39                | 11,439                           | 1,373            | 12,812     | 2010                      | Cap. Forecast                 |
| P-1149                      | 1930              | CI                 | 100                     | 51.15                | 13,474                           | 1,617            | 15,091     | 2010                      | Cap. Forecast                 |
| P-186                       | 1930              | CI                 | 100                     | 1.54                 | 2,677                            | 321              | 2,998      | 2010                      | Cap. Forecast                 |
| P-277                       | 1930              | CI                 | 150                     | 60.56                | 21,656                           | 2,599            | 24,255     | 2010                      | Cap. Forecast                 |
| P-294                       | 1930              | CI                 | 150                     | 170.89               | 61,024                           | 7,323            | 68,346     | 2010                      | Cap. Forecast                 |
| P-309                       | 1930              | CI                 | 150                     | 153.28               | 65,224                           | 7,827            | 73,051     | 2010                      | Cap. Forecast                 |
| P-351                       | 1930              | CI                 | 150                     | 41.34                | 20,055                           | 2,407            | 22,462     | 2010                      | Cap. Forecast                 |
| P-355                       | 1930              | CI                 | 100                     | 48.39                | 15,436                           | 1,852            | 17,288     | 2010                      | Cap. Forecast                 |
| P-367                       | 1930              | CI                 | 150                     | 178.64               | 76,797                           | 9,216            | 86,013     | 2010                      | Cap. Forecast                 |
| P-42                        | 1930              | CI                 | 100                     | 187.09               | 44,336                           | 5,320            | 49,656     | 2010                      | Cap. Forecast                 |
| P-42A                       | 1930              | CI                 | 100                     | 22.16                | 6,490                            | 779              | 7,269      | 2010                      | Cap. Forecast                 |
| P-441                       | 1930              | CI                 | 100                     | 3.65                 | 2,296                            | 276              | 2,571      | 2010                      | Cap. Forecast                 |
| P-456                       | 1930              | CI                 | 150                     | 104.10               | 32,551                           | 3,906            | 36,457     | 2010                      | Cap. Forecast                 |
| P-458                       | 1930              | CI                 | 100                     | 133.53               | 38,823                           | 4,659            | 43,481     | 2010                      | Cap. Forecast                 |
| P-519                       | 1930              | GAL                | 25                      | 212.27               | 44,820                           | 5,378            | 50,199     | 2010                      | Cap. Forecast                 |
| P-542                       | 1930              | CI                 | 150                     | 2.42                 | 2,446                            | 294              | 2,740      | 2010                      | Cap. Forecast                 |
| P-575                       | 1930              | GAL                | 25                      | 14.65                | 2,635                            | 316              | 2,952      | 2010                      | Cap. Forecast                 |
| P-580                       | 1930              | CI                 | 150                     | 6.39                 | 4,103                            | 492              | 4,595      | 2010                      | Cap. Forecast                 |
| P-592                       | 1930              | GAL                | 25                      | 1.37                 | 723                              | 87               | 809        | 2010                      | Cap. Forecast                 |
| P-600                       | 1930              | CI                 | 150                     | 114.97               | 44,489                           | 5,339            | 49,828     | 2010                      | Cap. Forecast                 |
| P-642                       | 1930              | CI                 | 150                     | 3.07                 | 3,396                            | 407              | 3,803      | 2010                      | Cap. Forecast                 |
| P-674                       | 1930              | CI                 | 100                     | 8.36                 | 4,780                            | 574              | 5,353      | 2010                      | Cap. Forecast                 |
| P-713                       | 1930              | CI                 | 100                     | 126.45               | 42,296                           | 5,076            | 47,372     | 2010                      | Cap. Forecast                 |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-732                       | 1930              | CI                 | 100                     | 6.39                 | 2,802                            | 336              | 3,138      | 2010                      | Cap. Forecast                 |
| P-745                       | 1930              | CI                 | 150                     | 13.33                | 7,019                            | 842              | 7,861      | 2010                      | Cap. Forecast                 |
| P-797                       | 1930              | CI                 | 150                     | 131.58               | 41,647                           | 4,998            | 46,645     | 2010                      | Cap. Forecast                 |
| P-814                       | 1930              | CI                 | 150                     | 28.08                | 7,911                            | 949              | 8,861      | 2010                      | Cap. Forecast                 |
| P-832                       | 1930              | CI                 | 150                     | 116.78               | 31,669                           | 3,800            | 35,470     | 2010                      | Cap. Forecast                 |
| P-864                       | 1930              | CI                 | 100                     | 178.50               | 63,653                           | 7,638            | 71,291     | 2010                      | Cap. Forecast                 |
| P-883                       | 1930              | CI                 | 150                     | 317.88               | 89,777                           | 10,773           | 100,550    | 2010                      | Cap. Forecast                 |
| P-896                       | 1930              | CI                 | 100                     | 188.42               | 63,541                           | 7,625            | 71,166     | 2010                      | Cap. Forecast                 |
| P-956                       | 1930              | CI                 | 100                     | 131.46               | 46,162                           | 5,539            | 51,702     | 2010                      | Cap. Forecast                 |
| P-1102                      | 1931              | CI                 | 100                     | 181.01               | 59,342                           | 7,121            | 66,463     | 2011                      | Cap. Forecast                 |
| P-1136                      | 1931              | CI                 | 100                     | 155.78               | 43,407                           | 5,209            | 48,616     | 2011                      | Cap. Forecast                 |
| P-245                       | 1931              | CI                 | 150                     | 163.41               | 47,273                           | 5,673            | 52,946     | 2011                      | Cap. Forecast                 |
| P-287                       | 1931              | CI                 | 100                     | 2.97                 | 2,170                            | 260              | 2,431      | 2011                      | Cap. Forecast                 |
| P-292                       | 1931              | CI                 | 150                     | 1.90                 | 2,334                            | 280              | 2,614      | 2011                      | Cap. Forecast                 |
| P-467                       | 1931              | CI                 | 200                     | 182.21               | 74,444                           | 8,933            | 83,377     | 2011                      | Cap. Forecast                 |
| P-480                       | 1931              | CI                 | 100                     | 4.27                 | 2,409                            | 289              | 2,698      | 2011                      | Cap. Forecast                 |
| P-524                       | 1931              | CI                 | 300                     | 4.37                 | 4,422                            | 531              | 4,953      | 2011                      | Cap. Forecast                 |
| P-525                       | 1931              | CI                 | 150                     | 6.88                 | 4,208                            | 505              | 4,713      | 2011                      | Cap. Forecast                 |
| P-618                       | 1931              | CI                 | 150                     | 7.69                 | 3,568                            | 428              | 3,996      | 2011                      | Cap. Forecast                 |
| P-634                       | 1931              | CI                 | 100                     | 173.26               | 62,302                           | 7,476            | 69,779     | 2011                      | Cap. Forecast                 |
| P-672                       | 1931              | CI                 | 150                     | 85.57                | 24,551                           | 2,946            | 27,497     | 2011                      | Cap. Forecast                 |
| P-700                       | 1931              | CI                 | 150                     | 1.92                 | 2,339                            | 281              | 2,620      | 2011                      | Cap. Forecast                 |
| P-743                       | 1931              | CI                 | 300                     | 93.13                | 40,724                           | 4,887            | 45,611     | 2011                      | Cap. Forecast                 |
| P-846                       | 1931              | CI                 | 150                     | 3.77                 | 2,733                            | 328              | 3,061      | 2011                      | Cap. Forecast                 |
| P-926                       | 1931              | CI                 | 150                     | 2.12                 | 2,381                            | 286              | 2,666      | 2011                      | Cap. Forecast                 |
| P-1090                      | 1932              | CI                 | 100                     | 314.34               | 92,026                           | 11,043           | 103,069    | 2012                      | Cap. Forecast                 |
| P-178                       | 1932              | CI                 | 150                     | 216.04               | 81,522                           | 9,783            | 91,304     | 2012                      | Cap. Forecast                 |
| P-36A                       | 1932              | CI                 | 200                     | 11.84                | 5,199                            | 624              | 5,823      | 2012                      | Cap. Forecast                 |
| P-48                        | 1932              | CI                 | 200                     | 56.75                | 22,456                           | 2,695            | 25,151     | 2012                      | Cap. Forecast                 |
| P-652                       | 1932              | CI                 | 200                     | 4.20                 | 3,090                            | 371              | 3,460      | 2012                      | Cap. Forecast                 |
| P-1032A                     | 1934              | CI                 | 150                     | 72.90                | 26,129                           | 3,136            | 29,265     | 2014                      | Cap. Forecast                 |
| P-1032B                     | 1934              | CI                 | 150                     | 7.50                 | 4,336                            | 520              | 4,856      | 2014                      | Cap. Forecast                 |
| P-1147                      | 1934              | CI                 | 200                     | 84.30                | 66,842                           | 8,021            | 74,863     | 2014                      | Cap. Forecast                 |
| P-1152                      | 1934              | CI                 | 200                     | 137.29               | 60,545                           | 7,265            | 67,811     | 2014                      | Cap. Forecast                 |
| P-176                       | 1934              | CI                 | 150                     | 8.08                 | 3,650                            | 438              | 4,088      | 2014                      | Cap. Forecast                 |
| P-297                       | 1934              | CI                 | 200                     | 45.94                | 25,137                           | 3,016            | 28,154     | 2014                      | Cap. Forecast                 |
| P-453                       | 1934              | CI                 | 150                     | 39.67                | 10,381                           | 1,246            | 11,626     | 2014                      | Cap. Forecast                 |
| P-459                       | 1934              | CI                 | 150                     | 4.66                 | 3,736                            | 448              | 4,184      | 2014                      | Cap. Forecast                 |
| P-489                       | 1934              | CI                 | 200                     | 124.39               | 74,347                           | 8,922            | 83,269     | 2014                      | Cap. Forecast                 |
| P-499                       | 1934              | CI                 | 200                     | 113.25               | 39,672                           | 4,761            | 44,433     | 2014                      | Cap. Forecast                 |
| P-565                       | 1934              | CI                 | 200                     | 1.25                 | 2,276                            | 273              | 2,549      | 2014                      | Cap. Forecast                 |
| P-659                       | 1934              | CI                 | 200                     | 50.54                | 31,067                           | 3,728            | 34,796     | 2014                      | Cap. Forecast                 |
| P-698                       | 1934              | CI                 | 150                     | 16.72                | 5,492                            | 659              | 6,151      | 2014                      | Cap. Forecast                 |
| P-723                       | 1934              | CI                 | 100                     | 9.66                 | 7,802                            | 936              | 8,738      | 2014                      | Cap. Forecast                 |
| P-767                       | 1934              | CI                 | 150                     | 102.50               | 26,197                           | 3,144            | 29,340     | 2014                      | Cap. Forecast                 |
| P-799                       | 1934              | CI                 | 200                     | 79.88                | 33,004                           | 3,960            | 36,964     | 2014                      | Cap. Forecast                 |
| P-847                       | 1934              | CI                 | 200                     | 131.39               | 56,826                           | 6,819            | 63,645     | 2014                      | Cap. Forecast                 |
| P-868                       | 1934              | CI                 | 150                     | 98.22                | 26,097                           | 3,132            | 29,228     | 2014                      | Cap. Forecast                 |
| P-891A                      | 1934              | CI                 | 200                     | 97.20                | 51,265                           | 6,152            | 57,417     | 2014                      | Cap. Forecast                 |
| P-931                       | 1934              | CI                 | 150                     | 194.90               | 53,172                           | 6,381            | 59,553     | 2014                      | Cap. Forecast                 |
| P-933                       | 1934              | CI                 | 200                     | 12.50                | 6,650                            | 798              | 7,448      | 2014                      | Cap. Forecast                 |
| P-981B                      | 1934              | CI                 | 200                     | 16.30                | 9,574                            | 1,149            | 10,723     | 2014                      | Cap. Forecast                 |
| P-990                       | 1934              | CI                 | 200                     | 117.39               | 61,067                           | 7,328            | 68,395     | 2014                      | Cap. Forecast                 |
| P-1001                      | 1935              | CI                 | 200                     | 9.05                 | 9,983                            | 1,198            | 11,181     | 2015                      | Cap. Forecast                 |
| P-217                       | 1935              | CI                 | 150                     | 65.55                | 20,755                           | 2,491            | 23,246     | 2015                      | Cap. Forecast                 |
| P-223                       | 1935              | CI                 | 150                     | 160.49               | 62,676                           | 7,521            | 70,197     | 2015                      | Cap. Forecast                 |
| P-439                       | 1935              | CI                 | 150                     | 61.48                | 19,079                           | 2,289            | 21,368     | 2015                      | Cap. Forecast                 |
| P-491                       | 1935              | CI                 | 150                     | 1.30                 | 2,207                            | 265              | 2,472      | 2015                      | Cap. Forecast                 |
| P-566                       | 1935              | CI                 | 150                     | 69.46                | 26,647                           | 3,198            | 29,844     | 2015                      | Cap. Forecast                 |
| P-614                       | 1935              | CI                 | 150                     | 11.42                | 5,594                            | 671              | 6,265      | 2015                      | Cap. Forecast                 |
| P-915                       | 1935              | CI                 | 200                     | 1.45                 | 2,330                            | 280              | 2,609      | 2015                      | Cap. Forecast                 |
| P-1020                      | 1940              | CI                 | 150                     | 1.59                 | 3,889                            | 467              | 4,356      | 2020                      | Cap. Forecast                 |
| P-1084                      | 1940              | CI                 | 250                     | 64.95                | 32,955                           | 3,955            | 36,909     | 2020                      | Cap. Forecast                 |
| P-167                       | 1940              | CI                 | 200                     | 33.70                | 14,124                           | 1,695            | 15,819     | 2020                      | Cap. Forecast                 |
| P-261                       | 1940              | CI                 | 200                     | 137.87               | 77,249                           | 9,270            | 86,519     | 2020                      | Cap. Forecast                 |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-272                       | 1940              | GAL                | 50                      | 3.82                 | 2,828                            | 339              | 3,167      | 2020                      | Cap. Forecast                 |
| P-286                       | 1940              | CI                 | 150                     | 171.41               | 65,062                           | 7,807            | 72,870     | 2020                      | Cap. Forecast                 |
| P-347                       | 1940              | CI                 | 150                     | 36.20                | 14,503                           | 1,740            | 16,244     | 2020                      | Cap. Forecast                 |
| P-397                       | 1940              | GAL                | 50                      | 132.72               | 29,207                           | 3,505            | 32,712     | 2020                      | Cap. Forecast                 |
| P-404                       | 1940              | CI                 | 150                     | 141.16               | 41,722                           | 5,007            | 46,729     | 2020                      | Cap. Forecast                 |
| P-671                       | 1940              | CI                 | 150                     | 38.96                | 15,242                           | 1,829            | 17,071     | 2020                      | Cap. Forecast                 |
| P-734                       | 1940              | GAL                | 19                      | 49.46                | 7,092                            | 851              | 7,943      | 2020                      | Cap. Forecast                 |
| P-775                       | 1940              | CI                 | 150                     | 116.26               | 48,109                           | 5,773            | 53,882     | 2020                      | Cap. Forecast                 |
| P-858                       | 1940              | CI                 | 250                     | 371.89               | 169,762                          | 20,371           | 190,134    | 2020                      | Cap. Forecast                 |
| P-365                       | 1941              | CI                 | 150                     | 80.12                | 46,960                           | 5,635            | 52,595     | 2021                      | Cap. Forecast                 |
| P-612                       | 1941              | 0                  | 38                      | 3.03                 | 1,480                            | 178              | 1,657      | 2021                      | Cap. Forecast                 |
| P-702                       | 1941              | 0                  | 38                      | 7.10                 | 1,589                            | 191              | 1,780      | 2021                      | Cap. Forecast                 |
| P-992                       | 1941              | CI                 | 150                     | 15.04                | 6,754                            | 810              | 7,564      | 2021                      | Cap. Forecast                 |
| P-994                       | 1941              | 0                  | 100                     | 2.25                 | 2,263                            | 272              | 2,535      | 2021                      | Cap. Forecast                 |
| P-1161                      | 1942              | CI                 | 150                     | 56.33                | 22,376                           | 2,685            | 25,061     | 2022                      | Cap. Forecast                 |
| P-195                       | 1942              | 0                  | 19                      | 12.73                | 2,048                            | 246              | 2,294      | 2022                      | Cap. Forecast                 |
| P-242                       | 1942              | CI                 | 150                     | 32.79                | 10,534                           | 1,264            | 11,798     | 2022                      | Cap. Forecast                 |
| P-313                       | 1942              | CI                 | 150                     | 19.10                | 6,810                            | 817              | 7,627      | 2022                      | Cap. Forecast                 |
| P-554                       | 1942              | CI                 | 150                     | 13.16                | 4,733                            | 568              | 5,300      | 2022                      | Cap. Forecast                 |
| P-900                       | 1942              | 0                  | 19                      | 20.64                | 5,831                            | 700              | 6,531      | 2022                      | Cap. Forecast                 |
| P-177                       | 1947              | CI                 | 150                     | 1.64                 | 3,092                            | 371              | 3,463      | 2027                      | Cap. Forecast                 |
| P-331                       | 1947              | CI                 | 150                     | 35.78                | 9,551                            | 1,146            | 10,697     | 2027                      | Cap. Forecast                 |
| P-530                       | 1947              | CI                 | 150                     | 128.86               | 38,977                           | 4,677            | 43,654     | 2027                      | Cap. Forecast                 |
| P-647                       | 1947              | CI                 | 150                     | 93.35                | 27,488                           | 3,299            | 30,786     | 2027                      | Cap. Forecast                 |
| P-673                       | 1947              | CI                 | 150                     | 1.53                 | 3,067                            | 368              | 3,435      | 2027                      | Cap. Forecast                 |
| P-928                       | 1947              | CI                 | 150                     | 575.15               | 163,900                          | 19,668           | 183,568    | 2027                      | Cap. Forecast                 |
| P-1095                      | 1948              | CI                 | 150                     | 230.00               | 86,456                           | 10,375           | 96,831     | 2028                      | Cap. Forecast                 |
| P-1142                      | 1948              | CI                 | 150                     | 51.86                | 17,839                           | 2,141            | 19,980     | 2028                      | Cap. Forecast                 |
| P-1171                      | 1948              | GAL                | 38                      | 47.95                | 19,065                           | 2,288            | 21,352     | 2028                      | Cap. Forecast                 |
| P-164                       | 1948              | CI                 | 150                     | 136.30               | 47,173                           | 5,661            | 52,834     | 2028                      | Cap. Forecast                 |
| P-375                       | 1948              | CI                 | 150                     | 60.88                | 23,002                           | 2,760            | 25,763     | 2028                      | Cap. Forecast                 |
| P-402                       | 1948              | CI                 | 150                     | 66.12                | 24,462                           | 2,935            | 27,398     | 2028                      | Cap. Forecast                 |
| P-416                       | 1948              | CI                 | 150                     | 128.20               | 61,531                           | 7,384            | 68,914     | 2028                      | Cap. Forecast                 |
| P-433                       | 1948              | GAL                | 38                      | 34.55                | 17,054                           | 2,047            | 19,101     | 2028                      | Cap. Forecast                 |
| P-450                       | 1948              | CI                 | 150                     | 11.71                | 6,047                            | 726              | 6,773      | 2028                      | Cap. Forecast                 |
| P-537                       | 1948              | COP                | 25                      | 115.52               | 24,024                           | 2,883            | 26,907     | 2028                      | Cap. Forecast                 |
| P-572                       | 1948              | CI                 | 150                     | 178.95               | 71,188                           | 8,543            | 79,731     | 2028                      | Cap. Forecast                 |
| P-610                       | 1948              | GAL                | 38                      | 51.40                | 21,203                           | 2,544            | 23,748     | 2028                      | Cap. Forecast                 |
| P-649                       | 1948              | COP                | 25                      | 13.68                | 2,495                            | 299              | 2,794      | 2028                      | Cap. Forecast                 |
| P-786                       | 1948              | CI                 | 150                     | 66.62                | 26,189                           | 3,143            | 29,332     | 2028                      | Cap. Forecast                 |
| P-849                       | 1948              | CI                 | 150                     | 110.56               | 32,776                           | 3,933            | 36,709     | 2028                      | Cap. Forecast                 |
| P-873                       | 1948              | CI                 | 150                     | 1.31                 | 2,210                            | 265              | 2,475      | 2028                      | Cap. Forecast                 |
| P-950                       | 1948              | CI                 | 150                     | 1.14                 | 2,174                            | 261              | 2,434      | 2028                      | Cap. Forecast                 |
| P-1007                      | 1949              | CI                 | 150                     | 138.11               | 58,439                           | 7,013            | 65,452     | 2029                      | Cap. Forecast                 |
| P-1055                      | 1949              | CI                 | 150                     | 108.71               | 34,813                           | 4,178            | 38,991     | 2029                      | Cap. Forecast                 |
| P-1071                      | 1949              | CI                 | 150                     | 129.50               | 55,792                           | 6,695            | 62,487     | 2029                      | Cap. Forecast                 |
| P-1120                      | 1949              | CI                 | 200                     | 8.11                 | 4,169                            | 500              | 4,669      | 2029                      | Cap. Forecast                 |
| P-1159                      | 1949              | CI                 | 150                     | 141.35               | 57,507                           | 6,901            | 64,408     | 2029                      | Cap. Forecast                 |
| P-153                       | 1949              | CI                 | 150                     | 8.79                 | 3,802                            | 456              | 4,259      | 2029                      | Cap. Forecast                 |
| P-189                       | 1949              | CI                 | 150                     | 106.36               | 42,758                           | 5,131            | 47,889     | 2029                      | Cap. Forecast                 |
| P-197                       | 1949              | CI                 | 150                     | 113.17               | 52,315                           | 6,278            | 58,593     | 2029                      | Cap. Forecast                 |
| P-206                       | 1949              | GAL                | 50                      | 12.83                | 5,882                            | 706              | 6,588      | 2029                      | Cap. Forecast                 |
| P-220                       | 1949              | CI                 | 150                     | 157.88               | 57,444                           | 6,893            | 64,337     | 2029                      | Cap. Forecast                 |
| P-259                       | 1949              | CI                 | 200                     | 156.75               | 53,297                           | 6,396            | 59,692     | 2029                      | Cap. Forecast                 |
| P-267                       | 1949              | CI                 | 200                     | 78.61                | 28,489                           | 3,419            | 31,908     | 2029                      | Cap. Forecast                 |
| P-31                        | 1949              | CI                 | 100                     | 105.12               | 33,566                           | 4,028            | 37,594     | 2029                      | Cap. Forecast                 |
| P-366                       | 1949              | COP                | 37                      | 95.61                | 18,608                           | 2,233            | 20,841     | 2029                      | Cap. Forecast                 |
| P-38                        | 1949              | COP                | 25                      | 97.06                | 23,367                           | 2,804            | 26,171     | 2029                      | Cap. Forecast                 |
| P-39                        | 1949              | COP                | 25                      | 94.82                | 17,421                           | 2,091            | 19,512     | 2029                      | Cap. Forecast                 |
| P-407                       | 1949              | CI                 | 150                     | 24.28                | 8,722                            | 1,047            | 9,768      | 2029                      | Cap. Forecast                 |
| P-43                        | 1949              | 0                  | 25                      | 15.54                | 3,143                            | 377              | 3,520      | 2029                      | Cap. Forecast                 |
| P-44                        | 1949              | CI                 | 200                     | 7.95                 | 4,124                            | 495              | 4,619      | 2029                      | Cap. Forecast                 |
| P-45                        | 1949              | CI                 | 200                     | 31.14                | 17,811                           | 2,137            | 19,948     | 2029                      | Cap. Forecast                 |
| P-456A                      | 1949              | CI                 | 150                     | 4.16                 | 2,816                            | 338              | 3,154      | 2029                      | Cap. Forecast                 |
| P-46                        | 1949              | CI                 | 200                     | 9.90                 | 4,662                            | 559              | 5,222      | 2029                      | Cap. Forecast                 |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-462                       | 1949              | 0                  | 25                      | 99.39                | 28,958                           | 3,475            | 32,433     | 2029                      | Cap. Forecast                 |
| P-468                       | 1949              | CI                 | 100                     | 117.92               | 38,025                           | 4,563            | 42,588     | 2029                      | Cap. Forecast                 |
| P-469                       | 1949              | CI                 | 150                     | 401.00               | 165,025                          | 19,803           | 184,828    | 2029                      | Cap. Forecast                 |
| P-483                       | 1949              | CI                 | 200                     | 95.56                | 36,061                           | 4,327            | 40,388     | 2029                      | Cap. Forecast                 |
| P-486                       | 1949              | CI                 | 150                     | 90.83                | 28,572                           | 3,429            | 32,000     | 2029                      | Cap. Forecast                 |
| P-532                       | 1949              | CI                 | 100                     | 116.11               | 121,266                          | 14,552           | 135,818    | 2029                      | Cap. Forecast                 |
| P-560                       | 1949              | CI                 | 150                     | 113.02               | 38,505                           | 4,621            | 43,126     | 2029                      | Cap. Forecast                 |
| P-648                       | 1949              | CI                 | 150                     | 130.39               | 47,878                           | 5,745            | 53,623     | 2029                      | Cap. Forecast                 |
| P-658                       | 1949              | 0                  | 37                      | 13.34                | 2,526                            | 303              | 2,830      | 2029                      | Cap. Forecast                 |
| P-704                       | 1949              | CI                 | 150                     | 8.68                 | 4,591                            | 551              | 5,142      | 2029                      | Cap. Forecast                 |
| P-751                       | 1949              | CI                 | 150                     | 2.00                 | 2,357                            | 283              | 2,640      | 2029                      | Cap. Forecast                 |
| P-754                       | 1949              | CI                 | 150                     | 123.01               | 44,342                           | 5,321            | 49,663     | 2029                      | Cap. Forecast                 |
| P-766                       | 1949              | CI                 | 200                     | 3.12                 | 2,791                            | 335              | 3,126      | 2029                      | Cap. Forecast                 |
| P-781                       | 1949              | CI                 | 200                     | 74.25                | 23,694                           | 2,843            | 26,537     | 2029                      | Cap. Forecast                 |
| P-830                       | 1949              | CI                 | 200                     | 92.72                | 40,140                           | 4,817            | 44,956     | 2029                      | Cap. Forecast                 |
| P-839                       | 1949              | CI                 | 150                     | 115.95               | 36,698                           | 4,404            | 41,102     | 2029                      | Cap. Forecast                 |
| P-921                       | 1949              | CI                 | 200                     | 9.21                 | 5,742                            | 689              | 6,431      | 2029                      | Cap. Forecast                 |
| P-922                       | 1949              | CI                 | 150                     | 109.58               | 28,515                           | 3,422            | 31,937     | 2029                      | Cap. Forecast                 |
| P-952                       | 1949              | CI                 | 150                     | 9.48                 | 3,949                            | 474              | 4,423      | 2029                      | Cap. Forecast                 |
| P-961                       | 1949              | CI                 | 150                     | 128.39               | 53,936                           | 6,472            | 60,408     | 2029                      | Cap. Forecast                 |
| P-102                       | 1950              | CI                 | 150                     | 138.74               | 52,085                           | 6,250            | 58,335     | 2030                      | Cap. Forecast                 |
| P-1124                      | 1950              | CI                 | 150                     | 89.35                | 31,843                           | 3,821            | 35,665     | 2030                      | Cap. Forecast                 |
| P-1125                      | 1950              | CI                 | 250                     | 3.19                 | 3,374                            | 405              | 3,779      | 2030                      | Cap. Forecast                 |
| P-1156                      | 1950              | CI                 | 300                     | 0.32                 | 2,765                            | 332              | 3,097      | 2030                      | Cap. Forecast                 |
| P-12                        | 1950              | CI                 | 150                     | 17.43                | 13,281                           | 1,594            | 14,875     | 2030                      | Cap. Forecast                 |
| P-14                        | 1950              | CI                 | 150                     | 52.47                | 22,835                           | 2,740            | 25,575     | 2030                      | Cap. Forecast                 |
| P-198                       | 1950              | COP                | 25                      | 50.74                | 22,801                           | 2,736            | 25,537     | 2030                      | Cap. Forecast                 |
| P-244                       | 1950              | CI                 | 250                     | 151.08               | 55,925                           | 6,711            | 62,636     | 2030                      | Cap. Forecast                 |
| P-275                       | 1950              | COP                | 25                      | 98.88                | 14,764                           | 1,772            | 16,536     | 2030                      | Cap. Forecast                 |
| P-387                       | 1950              | CI                 | 150                     | 12.38                | 5,379                            | 646              | 6,025      | 2030                      | Cap. Forecast                 |
| P-391                       | 1950              | 0                  | 50                      | 76.88                | 33,297                           | 3,996            | 37,292     | 2030                      | Cap. Forecast                 |
| P-394                       | 1950              | CI                 | 150                     | 188.10               | 72,329                           | 8,680            | 81,009     | 2030                      | Cap. Forecast                 |
| P-424                       | 1950              | 0                  | 50                      | 2.30                 | 2,586                            | 310              | 2,897      | 2030                      | Cap. Forecast                 |
| P-438                       | 1950              | COP                | 19                      | 40.03                | 9,391                            | 1,127            | 10,518     | 2030                      | Cap. Forecast                 |
| P-47                        | 1950              | CI                 | 150                     | 50.41                | 23,205                           | 2,785            | 25,990     | 2030                      | Cap. Forecast                 |
| P-546                       | 1950              | CI                 | 100                     | 142.96               | 46,503                           | 5,580            | 52,084     | 2030                      | Cap. Forecast                 |
| P-591                       | 1950              | CI                 | 150                     | 250.22               | 77,456                           | 9,295            | 86,751     | 2030                      | Cap. Forecast                 |
| P-594                       | 1950              | CI                 | 300                     | 2.45                 | 3,635                            | 436              | 4,071      | 2030                      | Cap. Forecast                 |
| P-623                       | 1950              | CI                 | 300                     | 2.18                 | 6,209                            | 745              | 6,954      | 2030                      | Cap. Forecast                 |
| P-670                       | 1950              | COP                | 25                      | 50.26                | 9,384                            | 1,126            | 10,510     | 2030                      | Cap. Forecast                 |
| P-681                       | 1950              | CI                 | 150                     | 200.10               | 74,072                           | 8,889            | 82,961     | 2030                      | Cap. Forecast                 |
| P-749                       | 1950              | CI                 | 150                     | 136.64               | 48,056                           | 5,767            | 53,823     | 2030                      | Cap. Forecast                 |
| P-762                       | 1950              | 0                  | 25                      | 83.69                | 22,302                           | 2,676            | 24,978     | 2030                      | Cap. Forecast                 |
| P-820                       | 1950              | CI                 | 150                     | 228.17               | 77,277                           | 9,273            | 86,551     | 2030                      | Cap. Forecast                 |
| P-835                       | 1950              | CI                 | 150                     | 1.82                 | 2,318                            | 278              | 2,596      | 2030                      | Cap. Forecast                 |
| P-959                       | 1950              | CI                 | 150                     | 1.13                 | 2,171                            | 261              | 2,432      | 2030                      | Cap. Forecast                 |
| P-972                       | 1950              | 0                  | 25                      | 5.21                 | 1,655                            | 199              | 1,853      | 2030                      | Cap. Forecast                 |
| P-1068                      | 1951              | CI                 | 150                     | 133.29               | 40,050                           | 4,806            | 44,856     | 2031                      | Cap. Forecast                 |
| P-1061                      | 1952              | CI                 | 150                     | 124.66               | 45,845                           | 5,501            | 51,347     | 2032                      | Cap. Forecast                 |
| P-841                       | 1952              | CI                 | 150                     | 9.28                 | 4,720                            | 566              | 5,286      | 2032                      | Cap. Forecast                 |
| P-142                       | 1953              | CI                 | 150                     | 167.64               | 40,069                           | 4,808            | 44,878     | 2033                      | Cap. Forecast                 |
| P-669                       | 1953              | CI                 | 150                     | 2.30                 | 3,232                            | 388              | 3,620      | 2033                      | Cap. Forecast                 |
| P-1096                      | 1954              | CI                 | 250                     | 71.30                | 26,666                           | 3,200            | 29,866     | 2034                      | Cap. Forecast                 |
| P-110                       | 1954              | CI                 | 250                     | 9.65                 | 5,582                            | 670              | 6,252      | 2034                      | Cap. Forecast                 |
| P-1107                      | 1954              | CI                 | 100                     | 9.73                 | 5,813                            | 698              | 6,510      | 2034                      | Cap. Forecast                 |
| P-1135                      | 1954              | CI                 | 250                     | 5.98                 | 4,327                            | 519              | 4,847      | 2034                      | Cap. Forecast                 |
| P-1143                      | 1954              | CI                 | 250                     | 262.36               | 106,014                          | 12,722           | 118,736    | 2034                      | Cap. Forecast                 |
| P-183                       | 1954              | CI                 | 250                     | 45.14                | 22,581                           | 2,710            | 25,291     | 2034                      | Cap. Forecast                 |
| P-22                        | 1954              | CI                 | 200                     | 271.28               | 86,061                           | 10,327           | 96,388     | 2034                      | Cap. Forecast                 |
| P-251                       | 1954              | CI                 | 150                     | 4.88                 | 2,970                            | 356              | 3,327      | 2034                      | Cap. Forecast                 |
| P-256                       | 1954              | CI                 | 150                     | 291.92               | 105,790                          | 12,695           | 118,484    | 2034                      | Cap. Forecast                 |
| P-288                       | 1954              | CI                 | 250                     | 168.52               | 77,633                           | 9,316            | 86,948     | 2034                      | Cap. Forecast                 |
| P-295                       | 1954              | CI                 | 250                     | 5.08                 | 4,019                            | 482              | 4,502      | 2034                      | Cap. Forecast                 |
| P-371                       | 1954              | CI                 | 250                     | 62.67                | 30,554                           | 3,666            | 34,220     | 2034                      | Cap. Forecast                 |
| P-382                       | 1954              | CI                 | 200                     | 1.78                 | 2,421                            | 291              | 2,712      | 2034                      | Cap. Forecast                 |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-411                       | 1954              | DI                 | 150                     | 2.24                 | 4,029                            | 483              | 4,513      | 2034                      | Cap. Forecast                 |
| P-442                       | 1954              | CI                 | 200                     | 1.01                 | 2,209                            | 265              | 2,474      | 2034                      | Cap. Forecast                 |
| P-558                       | 1954              | CI                 | 250                     | 106.88               | 44,053                           | 5,286            | 49,339     | 2034                      | Cap. Forecast                 |
| P-562                       | 1954              | CI                 | 250                     | 103.51               | 59,791                           | 7,175            | 66,966     | 2034                      | Cap. Forecast                 |
| P-638                       | 1954              | CI                 | 250                     | 88.63                | 34,569                           | 4,148            | 38,718     | 2034                      | Cap. Forecast                 |
| P-675                       | 1954              | CI                 | 200                     | 174.35               | 54,444                           | 6,533            | 60,977     | 2034                      | Cap. Forecast                 |
| P-689                       | 1954              | CI                 | 300                     | 185.92               | 95,975                           | 11,517           | 107,492    | 2034                      | Cap. Forecast                 |
| P-735                       | 1954              | CI                 | 250                     | 1.78                 | 7,754                            | 930              | 8,685      | 2034                      | Cap. Forecast                 |
| P-788                       | 1954              | CI                 | 250                     | 300.04               | 133,491                          | 16,019           | 149,510    | 2034                      | Cap. Forecast                 |
| P-834                       | 1954              | CI                 | 300                     | 241.08               | 121,278                          | 14,553           | 135,832    | 2034                      | Cap. Forecast                 |
| P-876                       | 1954              | CI                 | 250                     | 4.40                 | 5,762                            | 691              | 6,453      | 2034                      | 242                           |
| P-886                       | 1954              | CI                 | 200                     | 60.94                | 18,750                           | 2,250            | 21,000     | 2034                      | 787                           |
| P-91                        | 1954              | CI                 | 250                     | 75.50                | 28,103                           | 3,372            | 31,475     | 2034                      | 1,180                         |
| P-932                       | 1954              | COP                | 50                      | 3.35                 | 4,374                            | 525              | 4,899      | 2034                      | 184                           |
| P-1009                      | 1955              | CI                 | 150                     | 20.55                | 7,118                            | 854              | 7,972      | 2035                      | 286                           |
| P-188                       | 1955              | CI                 | 150                     | 70.55                | 21,820                           | 2,618            | 24,438     | 2035                      | 875                           |
| P-299B                      | 1955              | CI                 | 200                     | 29.80                | 10,155                           | 1,219            | 11,373     | 2035                      | 407                           |
| P-604                       | 1955              | CI                 | 150                     | 195.81               | 70,728                           | 8,487            | 79,215     | 2035                      | 2,838                         |
| P-660                       | 1955              | CI                 | 100                     | 268.48               | 54,451                           | 6,534            | 60,985     | 2035                      | 2,185                         |
| P-892                       | 1955              | CI                 | 200                     | 3.07                 | 2,777                            | 333              | 3,111      | 2035                      | 111                           |
| P-1069                      | 1956              | CI                 | 150                     | 176.73               | 54,506                           | 6,541            | 61,047     | 2036                      | 2,094                         |
| P-1080                      | 1956              | CI                 | 250                     | 61.14                | 30,029                           | 3,603            | 33,632     | 2036                      | 1,153                         |
| P-1169                      | 1956              | CI                 | 150                     | 110.83               | 29,976                           | 2,098            | 32,074     | 2036                      | 1,100                         |
| P-134                       | 1956              | CI                 | 200                     | 161.78               | 52,715                           | 6,326            | 59,041     | 2036                      | 2,025                         |
| P-171                       | 1956              | CI                 | 100                     | 68.23                | 23,785                           | 1,665            | 25,450     | 2036                      | 873                           |
| P-194                       | 1956              | CI                 | 300                     | 13.17                | 8,021                            | 963              | 8,984      | 2036                      | 308                           |
| P-210                       | 1956              | CI                 | 100                     | 146.89               | 40,913                           | 4,910            | 45,823     | 2036                      | 1,571                         |
| P-253                       | 1956              | CI                 | 150                     | 78.52                | 22,709                           | 2,725            | 25,434     | 2036                      | 872                           |
| P-291                       | 1956              | CI                 | 150                     | 119.52               | 41,168                           | 4,940            | 46,108     | 2036                      | 1,581                         |
| P-302                       | 1956              | CI                 | 150                     | 391.20               | 132,592                          | 9,281            | 141,873    | 2036                      | 4,866                         |
| P-345                       | 1956              | CI                 | 150                     | 37.66                | 9,951                            | 1,194            | 11,145     | 2036                      | 382                           |
| P-510                       | 1956              | CI                 | 150                     | 103.28               | 32,033                           | 3,844            | 35,877     | 2036                      | 1,230                         |
| P-521                       | 1956              | CI                 | 250                     | 131.52               | 58,963                           | 7,076            | 66,039     | 2036                      | 2,265                         |
| P-584                       | 1956              | CI                 | 250                     | 219.21               | 92,196                           | 11,064           | 103,260    | 2036                      | 3,541                         |
| P-603                       | 1956              | CI                 | 150                     | 6.42                 | 4,110                            | 493              | 4,604      | 2036                      | 158                           |
| P-613                       | 1956              | CI                 | 150                     | 120.40               | 33,250                           | 3,990            | 37,240     | 2036                      | 1,277                         |
| P-740                       | 1956              | CI                 | 250                     | 94.20                | 42,958                           | 5,155            | 48,113     | 2036                      | 1,650                         |
| P-757                       | 1956              | CI                 | 150                     | 275.64               | 89,353                           | 10,722           | 100,075    | 2036                      | 3,432                         |
| P-760                       | 1956              | CI                 | 300                     | 133.87               | 63,311                           | 7,597            | 70,908     | 2036                      | 2,432                         |
| P-784                       | 1956              | CI                 | 150                     | 53.55                | 15,769                           | 1,892            | 17,661     | 2036                      | 606                           |
| P-809                       | 1956              | CI                 | 150                     | 1.66                 | 2,283                            | 274              | 2,557      | 2036                      | 88                            |
| P-904                       | 1956              | CI                 | 150                     | 8.57                 | 3,756                            | 451              | 4,207      | 2036                      | 144                           |
| P-919                       | 1956              | CI                 | 150                     | 86.44                | 26,826                           | 3,219            | 30,045     | 2036                      | 1,030                         |
| P-939                       | 1956              | CI                 | 150                     | 162.48               | 55,994                           | 6,719            | 62,713     | 2036                      | 2,151                         |
| P-999                       | 1956              | CI                 | 150                     | 127.26               | 46,870                           | 5,624            | 52,494     | 2036                      | 1,800                         |
| P-836                       | 1957              | CI                 | 150                     | 123.07               | 41,455                           | 4,975            | 46,430     | 2037                      | 1,527                         |
| P-843                       | 1957              | CI                 | 150                     | 210.90               | 65,896                           | 4,613            | 70,509     | 2037                      | 2,318                         |
| P-920                       | 1957              | CI                 | 150                     | 183.90               | 53,139                           | 3,720            | 56,859     | 2037                      | 1,870                         |
| P-1044                      | 1958              | CI                 | 150                     | 9.84                 | 4,838                            | 581              | 5,419      | 2038                      | 171                           |
| P-1110                      | 1958              | CI                 | 100                     | 6.47                 | 3,589                            | 431              | 4,019      | 2038                      | 127                           |
| P-1116                      | 1958              | CI                 | 150                     | 121.33               | 41,123                           | 2,879            | 44,002     | 2038                      | 1,389                         |
| P-1128                      | 1958              | CI                 | 150                     | 70.08                | 21,509                           | 1,506            | 23,015     | 2038                      | 727                           |
| P-199                       | 1958              | CI                 | 150                     | 2.26                 | 2,411                            | 289              | 2,700      | 2038                      | 85                            |
| P-257                       | 1958              | DI                 | 100                     | 15.36                | 5,232                            | 628              | 5,860      | 2038                      | 185                           |
| P-273                       | 1958              | CI                 | 100                     | 2.66                 | 2,883                            | 346              | 3,229      | 2038                      | 102                           |
| P-296                       | 1958              | ci                 | 150                     | 139.80               | 43,090                           | 3,016            | 46,106     | 2038                      | 1,456                         |
| P-350                       | 1958              | CI                 | 150                     | 155.19               | 45,053                           | 5,406            | 50,460     | 2038                      | 1,593                         |
| P-461                       | 1958              | CI                 | 150                     | 109.65               | 32,921                           | 3,951            | 36,871     | 2038                      | 1,164                         |
| P-540                       | 1958              | CI                 | 150                     | 218.00               | 64,447                           | 7,734            | 72,181     | 2038                      | 2,279                         |
| P-570                       | 1958              | CI                 | 150                     | 74.21                | 21,278                           | 1,489            | 22,767     | 2038                      | 719                           |
| P-574                       | 1958              | CI                 | 150                     | 35.20                | 9,428                            | 1,131            | 10,560     | 2038                      | 333                           |
| P-741                       | 1958              | CI                 | 150                     | 60.87                | 24,155                           | 2,899            | 27,053     | 2038                      | 854                           |
| P-765                       | 1958              | CI                 | 250                     | 7.05                 | 6,667                            | 800              | 7,468      | 2038                      | 236                           |
| P-770                       | 1958              | CI                 | 150                     | 141.21               | 41,967                           | 2,938            | 44,905     | 2038                      | 1,418                         |
| P-842                       | 1958              | CI                 | 100                     | 2.71                 | 2,122                            | 255              | 2,376      | 2038                      | 75                            |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-882                       | 1958              | CI                 | 100                     | 3.91                 | 2,343                            | 281              | 2,624      | 2038                      | 83                            |
| P-963                       | 1958              | CI                 | 150                     | 131.50               | 36,763                           | 2,573            | 39,336     | 2038                      | 1,242                         |
| P-1074                      | 1959              | CI                 | 150                     | 122.20               | 34,100                           | 2,387            | 36,487     | 2039                      | 1,107                         |
| P-1115                      | 1959              | COP                | 25                      | 120.94               | 34,441                           | 4,133            | 38,574     | 2039                      | 1,171                         |
| P-356                       | 1959              | CI                 | 150                     | 156.87               | 50,602                           | 3,542            | 54,144     | 2039                      | 1,643                         |
| P-447                       | 1959              | CI                 | 100                     | 3.04                 | 2,183                            | 262              | 2,445      | 2039                      | 74                            |
| P-561                       | 1959              | CI                 | 100                     | 172.24               | 63,735                           | 7,648            | 71,383     | 2039                      | 2,166                         |
| P-769                       | 1959              | CI                 | 100                     | 271.95               | 81,410                           | 9,769            | 91,179     | 2039                      | 2,767                         |
| P-1043                      | 1960              | CI                 | 150                     | 196.57               | 69,739                           | 8,369            | 78,108     | 2040                      | 2,282                         |
| P-1126                      | 1960              | CI                 | 150                     | 126.72               | 33,785                           | 4,054            | 37,840     | 2040                      | 1,105                         |
| P-240                       | 1960              | CI                 | 150                     | 258.23               | 96,992                           | 11,639           | 108,631    | 2040                      | 3,173                         |
| P-333                       | 1960              | CI                 | 150                     | 3.82                 | 2,745                            | 329              | 3,074      | 2040                      | 90                            |
| P-496                       | 1960              | DI                 | 150                     | 5.10                 | 3,016                            | 362              | 3,378      | 2040                      | 99                            |
| P-598                       | 1960              | DI                 | 150                     | 19.16                | 10,405                           | 1,249            | 11,654     | 2040                      | 340                           |
| P-655                       | 1960              | CI                 | 150                     | 62.16                | 26,049                           | 3,126            | 29,175     | 2040                      | 852                           |
| P-656                       | 1960              | COP                | 25                      | 15.51                | 3,138                            | 377              | 3,515      | 2040                      | 103                           |
| P-714                       | 1960              | PVC                | 100                     | 2.49                 | 4,473                            | 537              | 5,010      | 2040                      | 146                           |
| P-947                       | 1960              | CI                 | 150                     | 315.08               | 100,528                          | 12,063           | 112,591    | 2040                      | 3,289                         |
| P-248                       | 1961              | CI                 | 150                     | 119.47               | 42,778                           | 5,133            | 47,911     | 2041                      | 1,349                         |
| P-1035                      | 1962              | CI                 | 150                     | 94.58                | 24,279                           | 1,700            | 25,978     | 2042                      | 705                           |
| P-1168                      | 1963              | UNK                | 150                     | 2.67                 | 4,933                            | 592              | 5,525      | 2043                      | 145                           |
| P-477                       | 1963              | CI                 | 150                     | 166.17               | 58,740                           | 7,049            | 65,789     | 2043                      | 1,724                         |
| P-556                       | 1963              | CI                 | 150                     | 158.52               | 49,005                           | 5,881            | 54,886     | 2043                      | 1,439                         |
| P-318                       | 1964              | CI                 | 150                     | 168.56               | 65,264                           | 7,832            | 73,095     | 2044                      | 1,851                         |
| P-984                       | 1964              | CI                 | 150                     | 120.85               | 33,856                           | 2,370            | 36,226     | 2044                      | 918                           |
| P-1002                      | 1965              | CI                 | 100                     | 76.90                | 29,967                           | 3,596            | 33,562     | 2045                      | 822                           |
| P-779                       | 1965              | CI                 | 150                     | 262.90               | 78,756                           | 5,513            | 84,269     | 2045                      | 2,064                         |
| P-593                       | 1966              | CI                 | 150                     | 222.15               | 64,489                           | 4,514            | 69,003     | 2046                      | 1,636                         |
| P-1052                      | 1967              | CI                 | 150                     | 227.34               | 95,130                           | 11,416           | 106,545    | 2047                      | 2,448                         |
| P-305                       | 1967              | CI                 | 150                     | 134.79               | 44,420                           | 5,330            | 49,751     | 2047                      | 1,143                         |
| P-417                       | 1967              | CI                 | 150                     | 18.50                | 7,866                            | 944              | 8,810      | 2047                      | 202                           |
| P-445                       | 1967              | CI                 | 150                     | 156.47               | 76,467                           | 9,176            | 85,643     | 2047                      | 1,967                         |
| P-758                       | 1967              | CI                 | 150                     | 11.33                | 6,378                            | 765              | 7,143      | 2047                      | 164                           |
| P-909                       | 1967              | CI                 | 150                     | 3.99                 | 4,023                            | 483              | 4,506      | 2047                      | 104                           |
| P-924                       | 1967              | CI                 | 150                     | 4.86                 | 3,488                            | 419              | 3,906      | 2047                      | 90                            |
| P-310                       | 1968              | CI                 | 150                     | 78.38                | 21,059                           | 2,527            | 23,586     | 2048                      | 525                           |
| P-851A                      | 1968              | CI                 | 150                     | 81.30                | 25,731                           | 3,088            | 28,819     | 2048                      | 642                           |
| P-981                       | 1968              | CI                 | 150                     | 8.44                 | 4,540                            | 545              | 5,085      | 2048                      | 113                           |
| P-1042                      | 1969              | 0                  | 25                      | 8.39                 | 2,488                            | 299              | 2,787      | 2049                      | 60                            |
| P-205                       | 1969              | 0                  | 100                     | 7.10                 | 4,419                            | 530              | 4,949      | 2049                      | 107                           |
| P-372                       | 1969              | 0                  | 25                      | 44.17                | 20,579                           | 2,469            | 23,048     | 2049                      | 498                           |
| P-454                       | 1969              | 0                  | 25                      | 21.08                | 7,075                            | 849              | 7,924      | 2049                      | 171                           |
| P-553                       | 1969              | 0                  | 25                      | 7.64                 | 2,692                            | 323              | 3,015      | 2049                      | 65                            |
| P-653                       | 1969              | 0                  | 19                      | 19.48                | 9,069                            | 1,088            | 10,157     | 2049                      | 219                           |
| P-1036                      | 1970              | 0                  | 25                      | 59.52                | 12,339                           | 1,481            | 13,819     | 2050                      | 290                           |
| P-1039                      | 1970              | 0                  | 25                      | 8.59                 | 3,383                            | 406              | 3,789      | 2050                      | 79                            |
| P-716                       | 1970              | 0                  | 25                      | 119.49               | 20,973                           | 2,517            | 23,490     | 2050                      | 493                           |
| P-1021                      | 1971              | DI                 | 200                     | 54.50                | 25,077                           | 3,009            | 28,086     | 2051                      | 572                           |
| P-159                       | 1971              | DI                 | 200                     | 28.00                | 10,929                           | 1,311            | 12,240     | 2051                      | 249                           |
| P-162                       | 1971              | DI                 | 200                     | 4.35                 | 4,752                            | 570              | 5,322      | 2051                      | 108                           |
| P-211                       | 1971              | DI                 | 200                     | 65.72                | 21,689                           | 2,603            | 24,292     | 2051                      | 495                           |
| P-247                       | 1971              | DI                 | 200                     | 138.94               | 49,654                           | 5,958            | 55,612     | 2051                      | 1,133                         |
| P-363                       | 1971              | DI                 | 200                     | 58.29                | 24,503                           | 2,940            | 27,444     | 2051                      | 559                           |
| P-393                       | 1971              | DI                 | 200                     | 34.60                | 11,480                           | 1,378            | 12,857     | 2051                      | 262                           |
| P-557                       | 1971              | PVC                | 150                     | 3.27                 | 3,440                            | 413              | 3,852      | 2051                      | 78                            |
| P-910                       | 1971              | DI                 | 200                     | 80.75                | 37,987                           | 4,558            | 42,545     | 2051                      | 867                           |
| P-1049                      | 1972              | DI                 | 150                     | 177.34               | 70,506                           | 8,461            | 78,967     | 2052                      | 1,563                         |
| P-1144                      | 1972              | DI                 | 200                     | 230.17               | 84,423                           | 10,131           | 94,553     | 2052                      | 1,872                         |
| P-322                       | 1972              | DI                 | 200                     | 586.74               | 264,669                          | 31,760           | 296,429    | 2052                      | 5,868                         |
| P-435                       | 1972              | DI                 | 100                     | 92.77                | 43,399                           | 5,208            | 48,607     | 2052                      | 962                           |
| P-508                       | 1972              | DI                 | 150                     | 128.43               | 38,546                           | 4,626            | 43,172     | 2052                      | 855                           |
| P-573                       | 1972              | DI                 | 200                     | 148.95               | 47,554                           | 5,706            | 53,260     | 2052                      | 1,054                         |
| P-589                       | 1972              | DI                 | 300                     | 19.70                | 13,374                           | 1,605            | 14,979     | 2052                      | 297                           |
| P-733                       | 1972              | DI                 | 150                     | 2.45                 | 3,264                            | 392              | 3,655      | 2052                      | 72                            |
| P-748                       | 1972              | DI                 | 300                     | 422.00               | 179,534                          | 21,544           | 201,079    | 2052                      | 3,981                         |

**TABLE A-1**  
**MUNICIPALITY OF PORT HOPE**  
**Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-941                       | 1972              | DI                 | 150                     | 251.21               | 77,197                           | 9,264            | 86,460     | 2052                      | 1,712                         |
| P-944                       | 1972              | DI                 | 150                     | 119.13               | 34,601                           | 4,152            | 38,753     | 2052                      | 767                           |
| P-10                        | 1974              | DI                 | 250                     | 7.40                 | 4,813                            | 578              | 5,390      | 2054                      | 101                           |
| P-1008                      | 1974              | DI                 | 300                     | 236.51               | 99,722                           | 6,981            | 106,702    | 2054                      | 1,999                         |
| P-1014                      | 1974              | DI                 | 200                     | 277.71               | 133,661                          | 16,039           | 149,700    | 2054                      | 2,804                         |
| P-1024                      | 1974              | DI                 | 250                     | 110.52               | 50,160                           | 6,019            | 56,179     | 2054                      | 1,052                         |
| P-103                       | 1974              | DI                 | 200                     | 140.49               | 55,652                           | 3,896            | 59,548     | 2054                      | 1,115                         |
| P-1033                      | 1974              | DI                 | 150                     | 62.04                | 14,941                           | 1,046            | 15,987     | 2054                      | 299                           |
| P-1040                      | 1974              | DI                 | 250                     | 95.68                | 46,704                           | 5,605            | 52,309     | 2054                      | 980                           |
| P-106                       | 1974              | DI                 | 150                     | 218.99               | 80,851                           | 5,660            | 86,511     | 2054                      | 1,620                         |
| P-1081                      | 1974              | DI                 | 250                     | 121.68               | 53,748                           | 3,762            | 57,510     | 2054                      | 1,077                         |
| P-1097                      | 1974              | DI                 | 250                     | 3.31                 | 3,413                            | 410              | 3,823      | 2054                      | 72                            |
| P-10A                       | 1974              | DI                 | 250                     | 2.67                 | 3,197                            | 384              | 3,580      | 2054                      | 67                            |
| P-1104                      | 1974              | DI                 | 150                     | 321.15               | 126,106                          | 8,827            | 134,934    | 2054                      | 2,527                         |
| P-1117                      | 1974              | DI                 | 150                     | 116.72               | 39,599                           | 2,772            | 42,371     | 2054                      | 794                           |
| P-1119                      | 1974              | COP                | 25                      | 3.41                 | 1,016                            | 122              | 1,138      | 2054                      | 21                            |
| P-1122                      | 1974              | DI                 | 500                     | 143.76               | 148,135                          | 17,776           | 165,911    | 2054                      | 3,108                         |
| P-1139                      | 1974              | DI                 | 250                     | 165.36               | 71,335                           | 8,560            | 79,896     | 2054                      | 1,496                         |
| P-1148                      | 1974              | DI                 | 500                     | 420.29               | 441,251                          | 52,950           | 494,202    | 2054                      | 9,256                         |
| P-1153                      | 1974              | DI                 | 150                     | 134.12               | 65,482                           | 4,584            | 70,065     | 2054                      | 1,312                         |
| P-1165                      | 1974              | DI                 | 200                     | 97.02                | 38,861                           | 2,720            | 41,582     | 2054                      | 779                           |
| P-1172                      | 1974              | DI                 | 200                     | 212.27               | 70,815                           | 4,957            | 75,772     | 2054                      | 1,419                         |
| P-191                       | 1974              | DI                 | 200                     | 74.45                | 26,991                           | 3,239            | 30,230     | 2054                      | 566                           |
| P-208                       | 1974              | DI                 | 150                     | 110.28               | 40,209                           | 2,815            | 43,024     | 2054                      | 806                           |
| P-226                       | 1974              | DI                 | 150                     | 102.04               | 42,161                           | 2,951            | 45,112     | 2054                      | 845                           |
| P-227                       | 1974              | COP                | 25                      | 1.63                 | 760                              | 91               | 852        | 2054                      | 16                            |
| P-229                       | 1974              | DI                 | 150                     | 158.98               | 50,695                           | 3,549            | 54,244     | 2054                      | 1,016                         |
| P-231                       | 1974              | DI                 | 150                     | 99.17                | 36,820                           | 2,577            | 39,398     | 2054                      | 738                           |
| P-235                       | 1974              | COP                | 25                      | 268.26               | 42,776                           | 5,133            | 47,909     | 2054                      | 897                           |
| P-241                       | 1974              | DI                 | 150                     | 137.69               | 50,284                           | 3,520            | 53,804     | 2054                      | 1,008                         |
| P-25                        | 1974              | DI                 | 200                     | 260.00               | 84,218                           | 10,106           | 94,324     | 2054                      | 1,767                         |
| P-264                       | 1974              | DI                 | 150                     | 90.42                | 25,591                           | 1,791            | 27,383     | 2054                      | 513                           |
| P-271                       | 1974              | DI                 | 250                     | 15.31                | 13,889                           | 1,667            | 15,555     | 2054                      | 291                           |
| P-283                       | 1974              | DI                 | 250                     | 57.64                | 21,753                           | 1,523            | 23,276     | 2054                      | 436                           |
| P-285                       | 1974              | DI                 | 200                     | 107.33               | 38,923                           | 2,725            | 41,648     | 2054                      | 780                           |
| P-293                       | 1974              | DI                 | 250                     | 54.03                | 22,381                           | 2,686            | 25,066     | 2054                      | 469                           |
| P-298                       | 1974              | DI                 | 150                     | 133.28               | 42,478                           | 5,097            | 47,575     | 2054                      | 891                           |
| P-314                       | 1974              | DI                 | 250                     | 66.52                | 27,090                           | 1,896            | 28,986     | 2054                      | 543                           |
| P-340                       | 1974              | CI                 | 150                     | 273.80               | 98,687                           | 11,842           | 110,529    | 2054                      | 2,070                         |
| P-348                       | 1974              | COP                | 25                      | 1.10                 | 684                              | 82               | 766        | 2054                      | 14                            |
| P-370                       | 1974              | DI                 | 200                     | 58.67                | 25,731                           | 1,801            | 27,533     | 2054                      | 516                           |
| P-374                       | 1974              | DI                 | 250                     | 4.99                 | 5,963                            | 716              | 6,679      | 2054                      | 125                           |
| P-384                       | 1974              | DI                 | 250                     | 7.24                 | 4,757                            | 571              | 5,328      | 2054                      | 100                           |
| P-401                       | 1974              | DI                 | 150                     | 209.90               | 67,491                           | 4,724            | 72,216     | 2054                      | 1,353                         |
| P-410                       | 1974              | DI                 | 150                     | 67.43                | 21,429                           | 1,500            | 22,929     | 2054                      | 429                           |
| P-413                       | 1974              | DI                 | 250                     | 55.62                | 27,355                           | 1,915            | 29,270     | 2054                      | 548                           |
| P-429                       | 1974              | DI                 | 250                     | 8.10                 | 5,053                            | 606              | 5,659      | 2054                      | 106                           |
| P-464                       | 1974              | DI                 | 200                     | 138.29               | 56,512                           | 3,956            | 60,468     | 2054                      | 1,133                         |
| P-479                       | 1974              | DI                 | 500                     | 278.67               | 277,302                          | 33,276           | 310,578    | 2054                      | 5,817                         |
| P-482                       | 1974              | DI                 | 500                     | 31.01                | 41,526                           | 4,983            | 46,509     | 2054                      | 871                           |
| P-49                        | 1974              | DI                 | 150                     | 131.20               | 42,035                           | 5,044            | 47,079     | 2054                      | 882                           |
| P-5                         | 1974              | DI                 | 250                     | 23.60                | 12,328                           | 1,479            | 13,808     | 2054                      | 259                           |
| P-505                       | 1974              | DI                 | 250                     | 95.47                | 38,174                           | 4,581            | 42,755     | 2054                      | 801                           |
| P-507                       | 1974              | DI                 | 250                     | 209.15               | 91,411                           | 10,969           | 102,380    | 2054                      | 1,918                         |
| P-509                       | 1974              | DI                 | 300                     | 274.16               | 112,231                          | 7,856            | 120,087    | 2054                      | 2,249                         |
| P-517                       | 1974              | DI                 | 150                     | 136.11               | 57,866                           | 4,051            | 61,917     | 2054                      | 1,160                         |
| P-532                       | 1974              | DI                 | 150                     | 377.53               | 180,632                          | 21,676           | 202,308    | 2054                      | 3,789                         |
| P-544                       | 1974              | DI                 | 200                     | 246.14               | 124,725                          | 8,731            | 133,456    | 2054                      | 2,500                         |
| P-563                       | 1974              | DI                 | 250                     | 20.65                | 9,345                            | 1,121            | 10,466     | 2054                      | 196                           |
| P-569                       | 1974              | DI                 | 250                     | 22.69                | 10,042                           | 1,205            | 11,247     | 2054                      | 211                           |
| P-577                       | 1974              | DI                 | 500                     | 166.36               | 191,086                          | 22,930           | 214,016    | 2054                      | 4,009                         |
| P-579                       | 1974              | COP                | 25                      | 5.25                 | 1,661                            | 199              | 1,860      | 2054                      | 35                            |
| P-582                       | 1974              | DI                 | 500                     | 385.42               | 405,812                          | 48,697           | 454,509    | 2054                      | 8,513                         |
| P-587                       | 1974              | DI                 | 150                     | 143.98               | 48,268                           | 3,379            | 51,647     | 2054                      | 967                           |
| P-6                         | 1974              | DI                 | 250                     | 115.30               | 64,294                           | 7,715            | 72,009     | 2054                      | 1,349                         |

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**MUNICIPALITY OF PORT HOPE**  
**Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-606                       | 1974              | DI                 | 200                     | 53.26                | 19,348                           | 1,354            | 20,703     | 2054                      | 388                           |
| P-616                       | 1974              | DI                 | 250                     | 364.64               | 162,461                          | 11,372           | 173,834    | 2054                      | 3,256                         |
| P-619                       | 1974              | DI                 | 250                     | 198.26               | 92,147                           | 6,450            | 98,597     | 2054                      | 1,847                         |
| P-62                        | 1974              | DI                 | 250                     | 45.10                | 22,923                           | 2,751            | 25,674     | 2054                      | 481                           |
| P-63                        | 1974              | DI                 | 250                     | 32.57                | 13,421                           | 1,611            | 15,031     | 2054                      | 282                           |
| P-632                       | 1974              | DI                 | 400                     | 21.53                | 20,477                           | 1,433            | 21,910     | 2054                      | 410                           |
| P-64                        | 1974              | DI                 | 250                     | 103.30               | 42,474                           | 5,097            | 47,570     | 2054                      | 891                           |
| P-640                       | 1974              | DI                 | 250                     | 9.10                 | 7,369                            | 884              | 8,253      | 2054                      | 155                           |
| P-65                        | 1974              | DI                 | 250                     | 113.00               | 51,008                           | 6,121            | 57,129     | 2054                      | 1,070                         |
| P-66                        | 1974              | DI                 | 250                     | 14.12                | 9,086                            | 1,090            | 10,176     | 2054                      | 191                           |
| P-67                        | 1974              | DI                 | 250                     | 119.00               | 55,035                           | 6,604            | 61,639     | 2054                      | 1,154                         |
| P-68                        | 1974              | DI                 | 250                     | 92.72                | 46,491                           | 5,579            | 52,070     | 2054                      | 975                           |
| P-680                       | 1974              | DI                 | 250                     | 59.13                | 28,428                           | 3,411            | 31,840     | 2054                      | 596                           |
| P-683                       | 1974              | DI                 | 250                     | 9.08                 | 7,363                            | 884              | 8,246      | 2054                      | 154                           |
| P-69                        | 1974              | DI                 | 250                     | 17.88                | 10,372                           | 1,245            | 11,617     | 2054                      | 218                           |
| P-690                       | 1974              | DI                 | 150                     | 68.31                | 26,010                           | 1,821            | 27,831     | 2054                      | 521                           |
| P-694                       | 1974              | DI                 | 150                     | 242.46               | 76,434                           | 5,350            | 81,784     | 2054                      | 1,532                         |
| P-70                        | 1974              | DI                 | 250                     | 89.50                | 42,971                           | 5,157            | 48,128     | 2054                      | 901                           |
| P-703                       | 1974              | DI                 | 250                     | 3.03                 | 3,319                            | 398              | 3,717      | 2054                      | 70                            |
| P-71                        | 1974              | DI                 | 250                     | 97.89                | 50,703                           | 6,084            | 56,788     | 2054                      | 1,064                         |
| P-711                       | 1974              | DI                 | 200                     | 109.30               | 41,743                           | 2,922            | 44,665     | 2054                      | 837                           |
| P-712                       | 1974              | 0                  | 25                      | 31.75                | 5,477                            | 657              | 6,134      | 2054                      | 115                           |
| P-724                       | 1974              | DI                 | 150                     | 209.79               | 65,407                           | 4,578            | 69,985     | 2054                      | 1,311                         |
| P-746                       | 1974              | DI                 | 150                     | 108.49               | 39,486                           | 2,764            | 42,250     | 2054                      | 791                           |
| P-763                       | 1974              | DI                 | 500                     | 159.89               | 160,242                          | 19,229           | 179,471    | 2054                      | 3,361                         |
| P-78                        | 1974              | DI                 | 500                     | 414.96               | 391,247                          | 27,387           | 418,634    | 2054                      | 7,841                         |
| P-800                       | 1974              | DI                 | 250                     | 12.19                | 8,426                            | 1,011            | 9,437      | 2054                      | 177                           |
| P-806                       | 1974              | DI                 | 500                     | 545.63               | 537,044                          | 64,445           | 601,489    | 2054                      | 11,266                        |
| P-807                       | 1974              | 0                  | 25                      | 5.51                 | 1,699                            | 204              | 1,903      | 2054                      | 36                            |
| P-810                       | 1974              | DI                 | 100                     | 138.87               | 64,085                           | 4,486            | 68,570     | 2054                      | 1,284                         |
| P-811                       | 1974              | DI                 | 200                     | 159.79               | 60,476                           | 4,233            | 64,710     | 2054                      | 1,212                         |
| P-821                       | 1974              | DI                 | 250                     | 141.98               | 58,030                           | 6,964            | 64,994     | 2054                      | 1,217                         |
| P-822                       | 1974              | DI                 | 200                     | 229.16               | 102,233                          | 7,156            | 109,389    | 2054                      | 2,049                         |
| P-833                       | 1974              | DI                 | 500                     | 111.04               | 119,753                          | 14,370           | 134,123    | 2054                      | 2,512                         |
| P-853                       | 1974              | DI                 | 250                     | 2.87                 | 6,504                            | 781              | 7,285      | 2054                      | 136                           |
| P-866                       | 1974              | DI                 | 150                     | 126.07               | 39,913                           | 2,794            | 42,706     | 2054                      | 800                           |
| P-9                         | 1974              | DI                 | 250                     | 81.68                | 46,312                           | 5,557            | 51,869     | 2054                      | 972                           |
| P-906                       | 1974              | DI                 | 250                     | 7.49                 | 12,480                           | 1,498            | 13,977     | 2054                      | 262                           |
| P-908                       | 1974              | DI                 | 200                     | 34.39                | 15,220                           | 1,065            | 16,286     | 2054                      | 305                           |
| P-91A                       | 1974              | DI                 | 250                     | 8.10                 | 7,027                            | 843              | 7,870      | 2054                      | 147                           |
| P-929                       | 1974              | DI                 | 500                     | 175.78               | 173,754                          | 20,851           | 194,605    | 2054                      | 3,645                         |
| P-938                       | 1974              | DI                 | 250                     | 120.39               | 53,888                           | 6,467            | 60,355     | 2054                      | 1,130                         |
| P-966                       | 1974              | DI                 | 500                     | 378.78               | 398,546                          | 47,825           | 446,371    | 2054                      | 8,361                         |
| P-973                       | 1974              | DI                 | 150                     | 117.82               | 43,931                           | 3,075            | 47,006     | 2054                      | 880                           |
| P-975                       | 1974              | DI                 | 150                     | 184.24               | 59,403                           | 4,158            | 63,561     | 2054                      | 1,190                         |
| P-976                       | 1974              | DI                 | 150                     | 135.87               | 41,000                           | 2,870            | 43,870     | 2054                      | 822                           |
| P-983                       | 1974              | DI                 | 250                     | 144.16               | 60,399                           | 7,248            | 67,646     | 2054                      | 1,267                         |
| P-1093                      | 1975              | COP                | 25                      | 54.14                | 9,942                            | 1,193            | 11,135     | 2055                      | 203                           |
| P-1131                      | 1975              | COP                | 25                      | 109.67               | 19,559                           | 2,347            | 21,907     | 2055                      | 399                           |
| P-1154                      | 1975              | COP                | 19                      | 8.09                 | 1,584                            | 190              | 1,774      | 2055                      | 32                            |
| P-237                       | 1975              | COP                | 25                      | 3.67                 | 1,434                            | 172              | 1,606      | 2055                      | 29                            |
| P-1076                      | 1976              | DI                 | 200                     | 5.53                 | 3,457                            | 415              | 3,871      | 2056                      | 69                            |
| P-280                       | 1976              | DI                 | 200                     | 2.06                 | 2,497                            | 300              | 2,797      | 2056                      | 50                            |
| P-460                       | 1976              | DI                 | 200                     | 8.59                 | 5,572                            | 669              | 6,241      | 2056                      | 111                           |
| P-549                       | 1976              | COP                | 25                      | 2.34                 | 862                              | 103              | 966        | 2056                      | 17                            |
| P-688                       | 1976              | DI                 | 200                     | 6.08                 | 4,880                            | 586              | 5,466      | 2056                      | 97                            |
| P-759                       | 1976              | DI                 | 200                     | 6.91                 | 3,837                            | 460              | 4,298      | 2056                      | 76                            |
| P-783                       | 1976              | DI                 | 200                     | 16.45                | 7,741                            | 929              | 8,670      | 2056                      | 154                           |
| P-860                       | 1976              | COP                | 25                      | 10.25                | 2,381                            | 286              | 2,667      | 2056                      | 47                            |
| P-957                       | 1976              | DI                 | 200                     | 424.80               | 179,136                          | 21,496           | 200,632    | 2056                      | 3,563                         |
| P-1016                      | 1978              | DI                 | 150                     | 96.87                | 26,957                           | 3,235            | 30,192     | 2058                      | 509                           |
| P-1023                      | 1978              | DI                 | 150                     | 73.45                | 18,386                           | 2,206            | 20,593     | 2058                      | 347                           |
| P-1099                      | 1978              | DI                 | 150                     | 3.12                 | 6,989                            | 839              | 7,828      | 2058                      | 132                           |
| P-576                       | 1978              | DI                 | 150                     | 531.32               | 137,200                          | 16,464           | 153,664    | 2058                      | 2,592                         |
| P-977                       | 1978              | COP                | 25                      | 62.16                | 21,974                           | 2,637            | 24,611     | 2058                      | 415                           |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
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| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-515                       | 1979              | DI                 | 150                     | 114.68               | 46,622                           | 5,595            | 52,216     | 2059                      | 859                           |
| P-1025                      | 1980              | DI                 | 150                     | 5.65                 | 10,769                           | 1,292            | 12,062     | 2060                      | 194                           |
| P-1029                      | 1980              | COP                | 19                      | 0.96                 | 871                              | 105              | 975        | 2060                      | 16                            |
| P-1045                      | 1980              | COP                | 25                      | 4.48                 | 1,550                            | 186              | 1,736      | 2060                      | 28                            |
| P-1101                      | 1980              | DI                 | 150                     | 1.57                 | 2,265                            | 272              | 2,537      | 2060                      | 41                            |
| P-1105                      | 1980              | COP                | 25                      | 44.17                | 8,506                            | 1,021            | 9,527      | 2060                      | 153                           |
| P-154                       | 1980              | COP                | 25                      | 59.42                | 13,944                           | 1,673            | 15,617     | 2060                      | 251                           |
| P-184                       | 1980              | COP                | 25                      | 4.84                 | 1,602                            | 192              | 1,794      | 2060                      | 29                            |
| P-315                       | 1980              | COP                | 25                      | 6.42                 | 1,829                            | 220              | 2,049      | 2060                      | 33                            |
| P-378                       | 1980              | COP                | 25                      | 6.58                 | 1,853                            | 222              | 2,075      | 2060                      | 33                            |
| P-383                       | 1980              | DI                 | 150                     | 63.33                | 21,903                           | 2,628            | 24,531     | 2060                      | 394                           |
| P-389                       | 1980              | COP                | 25                      | 12.06                | 5,504                            | 660              | 6,164      | 2060                      | 99                            |
| P-426                       | 1980              | COP                | 25                      | 16.38                | 2,884                            | 346              | 3,230      | 2060                      | 52                            |
| P-550                       | 1980              | DI                 | 150                     | 246.32               | 102,901                          | 12,348           | 115,249    | 2060                      | 1,850                         |
| P-621                       | 1980              | COP                | 25                      | 16.26                | 2,866                            | 344              | 3,210      | 2060                      | 52                            |
| P-645                       | 1980              | COP                | 25                      | 2.60                 | 900                              | 108              | 1,008      | 2060                      | 16                            |
| P-685                       | 1980              | DI                 | 150                     | 2.94                 | 2,555                            | 307              | 2,862      | 2060                      | 46                            |
| P-794                       | 1980              | COP                | 19                      | 0.76                 | 2,222                            | 267              | 2,489      | 2060                      | 40                            |
| P-796                       | 1980              | COP                | 25                      | 74.86                | 18,168                           | 2,180            | 20,349     | 2060                      | 327                           |
| P-927                       | 1980              | COP                | 25                      | 21.79                | 5,284                            | 634              | 5,918      | 2060                      | 95                            |
| P-1034                      | 1981              | DI                 | 200                     | 19.28                | 12,114                           | 1,454            | 13,568     | 2061                      | 213                           |
| P-1047                      | 1981              | COP                | 19                      | 4.21                 | 946                              | 113              | 1,059      | 2061                      | 17                            |
| P-1057                      | 1981              | DI                 | 200                     | 1.96                 | 3,742                            | 449              | 4,191      | 2061                      | 66                            |
| P-1059                      | 1981              | CON                | 600                     | 2.29                 | 15,555                           | 1,867            | 17,422     | 2061                      | 273                           |
| P-20                        | 1981              | CON                | 600                     | 53.61                | 62,412                           | 7,489            | 69,901     | 2061                      | 1,095                         |
| P-699                       | 1981              | COP                | 25                      | 130.52               | 30,667                           | 3,680            | 34,347     | 2061                      | 538                           |
| P-709                       | 1981              | DI                 | 200                     | 2.28                 | 3,829                            | 460              | 4,289      | 2061                      | 67                            |
| P-710                       | 1981              | CON                | 600                     | 13.83                | 32,000                           | 3,840            | 35,840     | 2061                      | 561                           |
| P-768                       | 1981              | COP                | 25                      | 2.89                 | 1,322                            | 159              | 1,480      | 2061                      | 23                            |
| P-905                       | 1981              | COP                | 19                      | 3.31                 | 1,106                            | 133              | 1,239      | 2061                      | 19                            |
| P-1015                      | 1982              | DI                 | 300                     | 9.87                 | 6,672                            | 801              | 7,472      | 2062                      | 114                           |
| P-1046                      | 1982              | CON                | 500                     | 19.38                | 24,859                           | 2,983            | 27,842     | 2062                      | 426                           |
| P-1130                      | 1982              | CON                | 600                     | 69.23                | 85,441                           | 10,253           | 95,694     | 2062                      | 1,464                         |
| P-1155                      | 1982              | CON                | 600                     | 72.18                | 99,631                           | 11,956           | 111,586    | 2062                      | 1,707                         |
| P-160                       | 1982              | DI                 | 150                     | 112.67               | 43,290                           | 5,195            | 48,485     | 2062                      | 742                           |
| P-187                       | 1982              | DI                 | 500                     | 355.59               | 358,585                          | 43,030           | 401,615    | 2062                      | 6,142                         |
| P-224                       | 1982              | CON                | 600                     | 9.72                 | 16,595                           | 1,991            | 18,587     | 2062                      | 284                           |
| P-263                       | 1982              | DI                 | 150                     | 164.52               | 67,646                           | 8,117            | 75,763     | 2062                      | 1,159                         |
| P-274                       | 1982              | CON                | 600                     | 74.15                | 101,685                          | 12,202           | 113,887    | 2062                      | 1,742                         |
| P-319                       | 1982              | DI                 | 600                     | 141.47               | 167,346                          | 20,082           | 187,427    | 2062                      | 2,866                         |
| P-323                       | 1982              | CON                | 600                     | 50.51                | 63,564                           | 7,628            | 71,192     | 2062                      | 1,089                         |
| P-364                       | 1982              | DI                 | 600                     | 60.69                | 76,518                           | 9,182            | 85,701     | 2062                      | 1,311                         |
| P-513                       | 1982              | DI                 | 600                     | 3.00                 | 9,572                            | 1,149            | 10,721     | 2062                      | 164                           |
| P-547                       | 1982              | DI                 | 150                     | 83.40                | 23,748                           | 2,850            | 26,598     | 2062                      | 407                           |
| P-555                       | 1982              | DI                 | 150                     | 213.53               | 76,464                           | 9,176            | 85,639     | 2062                      | 1,310                         |
| P-668                       | 1982              | CON                | 600                     | 165.34               | 202,201                          | 24,264           | 226,466    | 2062                      | 3,464                         |
| P-668A                      | 1982              | CON                | 600                     | 9.50                 | 16,363                           | 1,964            | 18,326     | 2062                      | 280                           |
| P-668B                      | 1982              | CON                | 600                     | 0.99                 | 7,474                            | 897              | 8,371      | 2062                      | 128                           |
| P-756                       | 1982              | DI                 | 150                     | 122.07               | 35,228                           | 4,227            | 39,455     | 2062                      | 603                           |
| P-798                       | 1982              | CON                | 600                     | 44.68                | 59,806                           | 7,177            | 66,982     | 2062                      | 1,024                         |
| P-805                       | 1982              | CON                | 600                     | 8.38                 | 21,911                           | 2,629            | 24,540     | 2062                      | 375                           |
| P-838                       | 1982              | CON                | 600                     | 181.02               | 202,144                          | 24,257           | 226,401    | 2062                      | 3,463                         |
| P-982                       | 1982              | DI                 | 600                     | 39.23                | 54,121                           | 6,494            | 60,615     | 2062                      | 927                           |
| P-1004                      | 1983              | CI                 | 250                     | 121.23               | 46,983                           | 5,638            | 52,621     | 2063                      | 786                           |
| P-1157                      | 1983              | DI                 | 300                     | 9.51                 | 8,146                            | 977              | 9,123      | 2063                      | 136                           |
| P-409                       | 1983              | DI                 | 100                     | 4.48                 | 4,070                            | 488              | 4,558      | 2063                      | 68                            |
| P-465                       | 1983              | DI                 | 200                     | 69.90                | 28,507                           | 3,421            | 31,928     | 2063                      | 477                           |
| P-631                       | 1983              | DI                 | 300                     | 26.88                | 15,249                           | 1,830            | 17,079     | 2063                      | 255                           |
| P-960                       | 1983              | DI                 | 200                     | 85.13                | 29,939                           | 3,593            | 33,532     | 2063                      | 501                           |
| P-985                       | 1983              | DI                 | 150                     | 66.67                | 21,806                           | 2,617            | 24,422     | 2063                      | 365                           |
| P-991                       | 1983              | DI                 | 150                     | 108.59               | 35,128                           | 4,215            | 39,343     | 2063                      | 588                           |
| P-1028                      | 1984              | DI                 | 250                     | 13.67                | 8,932                            | 1,072            | 10,004     | 2064                      | 146                           |
| P-1082                      | 1984              | DI                 | 150                     | 2.47                 | 3,268                            | 392              | 3,660      | 2064                      | 53                            |
| P-1087                      | 1984              | DI                 | 150                     | 75.71                | 28,933                           | 3,472            | 32,405     | 2064                      | 473                           |
| P-1138                      | 1984              | DI                 | 150                     | 4.87                 | 3,780                            | 454              | 4,233      | 2064                      | 62                            |

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| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-818                       | 1984              | DI                 | 150                     | 91.96                | 37,259                           | 4,471            | 41,730     | 2064                      | 609                           |
| P-844                       | 1984              | DI                 | 150                     | 5.72                 | 3,149                            | 378              | 3,526      | 2064                      | 51                            |
| P-1048                      | 1985              | COP                | 19                      | 4.15                 | 1,190                            | 143              | 1,333      | 2065                      | 19                            |
| P-1145                      | 1985              | COP                | 19                      | 44.71                | 13,101                           | 1,572            | 14,673     | 2065                      | 209                           |
| P-180                       | 1985              | COP                | 25                      | 7.92                 | 1,665                            | 200              | 1,865      | 2065                      | 27                            |
| P-457                       | 1985              | COP                | 25                      | 5.38                 | 1,680                            | 202              | 1,881      | 2065                      | 27                            |
| P-520                       | 1985              | COP                | 25                      | 87.23                | 29,677                           | 3,561            | 33,238     | 2065                      | 474                           |
| P-722                       | 1985              | COP                | 25                      | 101.92               | 26,549                           | 3,186            | 29,735     | 2065                      | 424                           |
| P-880                       | 1985              | COP                | 19                      | 3.19                 | 844                              | 101              | 945        | 2065                      | 13                            |
| P-1118                      | 1986              | DI                 | 200                     | 19.76                | 7,385                            | 886              | 8,271      | 2066                      | 115                           |
| P-166                       | 1986              | DI                 | 200                     | 12.86                | 9,873                            | 1,185            | 11,057     | 2066                      | 154                           |
| P-202                       | 1986              | DI                 | 300                     | 80.63                | 42,685                           | 5,122            | 47,808     | 2066                      | 667                           |
| P-403                       | 1986              | DI                 | 150                     | 146.45               | 48,868                           | 5,864            | 54,732     | 2066                      | 763                           |
| P-419                       | 1986              | DI                 | 300                     | 5.91                 | 7,731                            | 928              | 8,659      | 2066                      | 121                           |
| P-448                       | 1986              | DI                 | 250                     | 2.20                 | 5,009                            | 601              | 5,610      | 2066                      | 78                            |
| P-497                       | 1986              | DI                 | 200                     | 15.15                | 10,505                           | 1,261            | 11,765     | 2066                      | 164                           |
| P-52                        | 1986              | DI                 | 300                     | 556.10               | 256,727                          | 30,807           | 287,534    | 2066                      | 4,011                         |
| P-53                        | 1986              | DI                 | 300                     | 14.90                | 8,729                            | 1,047            | 9,777      | 2066                      | 136                           |
| P-650                       | 1986              | DI                 | 300                     | 67.13                | 32,773                           | 3,933            | 36,706     | 2066                      | 512                           |
| P-651                       | 1986              | DI                 | 300                     | 77.58                | 38,667                           | 4,640            | 43,307     | 2066                      | 604                           |
| P-661                       | 1986              | DI                 | 150                     | 30.04                | 9,140                            | 1,097            | 10,237     | 2066                      | 143                           |
| P-663                       | 1986              | DI                 | 200                     | 1.61                 | 2,375                            | 285              | 2,660      | 2066                      | 37                            |
| P-782                       | 1986              | DI                 | 300                     | 273.92               | 139,572                          | 16,749           | 156,320    | 2066                      | 2,180                         |
| P-812                       | 1986              | DI                 | 200                     | 24.82                | 10,052                           | 1,206            | 11,259     | 2066                      | 157                           |
| P-837                       | 1986              | DI                 | 300                     | 100.65               | 48,196                           | 5,784            | 53,979     | 2066                      | 753                           |
| P-995                       | 1986              | DI                 | 300                     | 42.36                | 24,356                           | 2,923            | 27,279     | 2066                      | 381                           |
| P-1166                      | 1987              | DI                 | 300                     | 279.04               | 131,474                          | 15,777           | 147,251    | 2067                      | 2,009                         |
| P-221                       | 1987              | PVC                | 200                     | 2.89                 | 3,999                            | 480              | 4,479      | 2067                      | 61                            |
| P-232                       | 1987              | DI                 | 400                     | 228.94               | 200,803                          | 24,096           | 224,899    | 2067                      | 3,068                         |
| P-239                       | 1987              | PE                 | 50                      | 92.97                | 16,402                           | 1,968            | 18,370     | 2067                      | 251                           |
| P-290                       | 1987              | DI                 | 400                     | 2.68                 | 8,576                            | 1,029            | 9,605      | 2067                      | 131                           |
| P-317                       | 1987              | DI                 | 400                     | 256.72               | 235,780                          | 28,294           | 264,074    | 2067                      | 3,603                         |
| P-390                       | 1987              | DI                 | 200                     | 25.74                | 11,996                           | 1,440            | 13,435     | 2067                      | 183                           |
| P-392                       | 1987              | PVC                | 200                     | 2.42                 | 2,599                            | 312              | 2,911      | 2067                      | 40                            |
| P-490                       | 1987              | DI                 | 150                     | 139.18               | 91,087                           | 10,930           | 102,018    | 2067                      | 1,392                         |
| P-512                       | 1987              | DI                 | 400                     | 99.52                | 100,391                          | 12,047           | 112,438    | 2067                      | 1,534                         |
| P-588                       | 1987              | DI                 | 150                     | 54.06                | 14,257                           | 1,711            | 15,967     | 2067                      | 218                           |
| P-605                       | 1987              | DI                 | 400                     | 156.50               | 147,288                          | 17,675           | 164,963    | 2067                      | 2,251                         |
| P-706                       | 1987              | DI                 | 150                     | 164.17               | 59,900                           | 4,193            | 64,093     | 2067                      | 874                           |
| P-736                       | 1987              | DI                 | 150                     | 307.34               | 100,578                          | 7,040            | 107,618    | 2067                      | 1,468                         |
| P-823                       | 1987              | DI                 | 150                     | 29.13                | 12,529                           | 1,504            | 14,033     | 2067                      | 191                           |
| P-863                       | 1987              | DI                 | 200                     | 3.61                 | 2,926                            | 351              | 3,277      | 2067                      | 45                            |
| P-923                       | 1987              | PVC                | 150                     | 7.55                 | 5,971                            | 716              | 6,687      | 2067                      | 91                            |
| P-936                       | 1987              | PVC                | 150                     | 2.53                 | 2,468                            | 296              | 2,764      | 2067                      | 38                            |
| P-979                       | 1987              | DI                 | 400                     | 3.88                 | 14,045                           | 1,685            | 15,730     | 2067                      | 215                           |
| P-987                       | 1987              | DI                 | 200                     | 16.21                | 7,674                            | 921              | 8,595      | 2067                      | 117                           |
| P-1123                      | 1988              | DI                 | 150                     | 285.93               | 99,460                           | 6,962            | 106,422    | 2068                      | 1,420                         |
| P-169                       | 1988              | DI                 | 200                     | 127.06               | 46,023                           | 5,523            | 51,546     | 2068                      | 688                           |
| P-204                       | 1988              | DI                 | 300                     | 2.52                 | 3,115                            | 218              | 3,333      | 2068                      | 44                            |
| P-218                       | 1988              | DI                 | 250                     | 144.40               | 72,752                           | 5,093            | 77,845     | 2068                      | 1,039                         |
| P-252                       | 1988              | DI                 | 250                     | 165.57               | 91,212                           | 6,385            | 97,597     | 2068                      | 1,303                         |
| P-270                       | 1988              | DI                 | 300                     | 0.86                 | 4,817                            | 337              | 5,154      | 2068                      | 69                            |
| P-300                       | 1988              | DI                 | 150                     | 99.20                | 43,316                           | 3,032            | 46,348     | 2068                      | 619                           |
| P-304                       | 1988              | PVC                | 200                     | 1.33                 | 2,297                            | 276              | 2,573      | 2068                      | 34                            |
| P-330                       | 1988              | DI                 | 300                     | 85.91                | 32,105                           | 2,247            | 34,352     | 2068                      | 459                           |
| P-335                       | 1988              | PVC                | 200                     | 7.82                 | 5,359                            | 643              | 6,002      | 2068                      | 80                            |
| P-339                       | 1988              | DI                 | 300                     | 166.77               | 62,497                           | 4,375            | 66,871     | 2068                      | 893                           |
| P-361                       | 1988              | PE                 | 25                      | 1.89                 | 4,039                            | 485              | 4,523      | 2068                      | 60                            |
| P-41                        | 1988              | DI                 | 150                     | 122.52               | 35,324                           | 4,239            | 39,563     | 2068                      | 528                           |
| P-446                       | 1988              | DI                 | 150                     | 459.70               | 189,770                          | 13,284           | 203,054    | 2068                      | 2,710                         |
| P-528                       | 1988              | DI                 | 250                     | 283.65               | 137,539                          | 9,628            | 147,167    | 2068                      | 1,964                         |
| P-552                       | 1988              | DI                 | 300                     | 17.04                | 11,818                           | 827              | 12,646     | 2068                      | 169                           |
| P-567                       | 1988              | DI                 | 150                     | 82.40                | 21,914                           | 2,630            | 24,543     | 2068                      | 328                           |
| P-578                       | 1988              | DI                 | 250                     | 108.64               | 55,470                           | 3,883            | 59,353     | 2068                      | 792                           |
| P-586                       | 1988              | DI                 | 200                     | 187.12               | 61,377                           | 4,296            | 65,674     | 2068                      | 877                           |

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| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-590                       | 1988              | COP                | 19                      | 3.80                 | 905                              | 109              | 1,014      | 2068                      | 14                            |
| P-625                       | 1988              | DI                 | 150                     | 74.99                | 38,932                           | 2,725            | 41,657     | 2068                      | 556                           |
| P-626                       | 1988              | DI                 | 300                     | 3.01                 | 5,565                            | 390              | 5,954      | 2068                      | 79                            |
| P-633                       | 1988              | DI                 | 150                     | 56.45                | 28,687                           | 2,008            | 30,695     | 2068                      | 410                           |
| P-662                       | 1988              | DI                 | 300                     | 313.44               | 142,022                          | 9,942            | 151,964    | 2068                      | 2,028                         |
| P-697                       | 1988              | DI                 | 250                     | 109.93               | 55,843                           | 3,909            | 59,752     | 2068                      | 798                           |
| P-725                       | 1988              | DI                 | 250                     | 75.04                | 35,079                           | 2,456            | 37,534     | 2068                      | 501                           |
| P-739                       | 1988              | DI                 | 150                     | 42.55                | 26,169                           | 1,832            | 28,001     | 2068                      | 374                           |
| P-753                       | 1988              | DI                 | 300                     | 16.87                | 12,215                           | 1,466            | 13,681     | 2068                      | 183                           |
| P-773                       | 1988              | PE                 | 50                      | 84.14                | 20,461                           | 2,455            | 22,916     | 2068                      | 306                           |
| P-826                       | 1988              | PE                 | 50                      | 9.84                 | 3,785                            | 454              | 4,239      | 2068                      | 57                            |
| P-845                       | 1988              | DI                 | 250                     | 129.56               | 61,551                           | 4,309            | 65,859     | 2068                      | 879                           |
| P-875                       | 1988              | DI                 | 250                     | 69.16                | 29,236                           | 2,047            | 31,283     | 2068                      | 418                           |
| P-918                       | 1988              | PE                 | 19                      | 51.34                | 5,659                            | 679              | 6,339      | 2068                      | 85                            |
| P-940                       | 1988              | DI                 | 300                     | 17.35                | 10,549                           | 738              | 11,287     | 2068                      | 151                           |
| P-943                       | 1988              | DI                 | 300                     | 6.61                 | 6,815                            | 477              | 7,292      | 2068                      | 97                            |
| P-1037                      | 1989              | DI                 | 300                     | 5.33                 | 12,359                           | 1,483            | 13,842     | 2069                      | 181                           |
| P-1067                      | 1989              | DI                 | 150                     | 53.48                | 22,637                           | 1,585            | 24,221     | 2069                      | 316                           |
| P-1098                      | 1989              | DI                 | 150                     | 66.71                | 32,693                           | 3,923            | 36,616     | 2069                      | 478                           |
| P-1112                      | 1989              | DI                 | 150                     | 77.15                | 21,120                           | 1,478            | 22,598     | 2069                      | 295                           |
| P-1162                      | 1989              | DI                 | 150                     | 71.18                | 25,842                           | 1,809            | 27,650     | 2069                      | 361                           |
| P-132                       | 1989              | DI                 | 200                     | 130.36               | 50,816                           | 3,557            | 54,373     | 2069                      | 710                           |
| P-137                       | 1989              | DI                 | 150                     | 62.52                | 24,274                           | 1,699            | 25,973     | 2069                      | 339                           |
| P-138                       | 1989              | DI                 | 200                     | 259.39               | 91,711                           | 6,420            | 98,131     | 2069                      | 1,282                         |
| P-139                       | 1989              | DI                 | 200                     | 27.22                | 8,026                            | 562              | 8,588      | 2069                      | 112                           |
| P-165                       | 1989              | DI                 | 300                     | 28.15                | 22,936                           | 2,752            | 25,689     | 2069                      | 336                           |
| P-225                       | 1989              | DI                 | 300                     | 215.02               | 93,260                           | 11,191           | 104,451    | 2069                      | 1,364                         |
| P-258                       | 1989              | DI                 | 150                     | 1.81                 | 7,990                            | 959              | 8,949      | 2069                      | 117                           |
| P-320                       | 1989              | DI                 | 200                     | 138.50               | 44,459                           | 3,112            | 47,571     | 2069                      | 621                           |
| P-342                       | 1989              | DI                 | 200                     | 69.72                | 20,455                           | 1,432            | 21,887     | 2069                      | 286                           |
| P-352                       | 1989              | DI                 | 150                     | 242.10               | 70,051                           | 8,406            | 78,457     | 2069                      | 1,025                         |
| P-381                       | 1989              | DI                 | 300                     | 154.48               | 65,613                           | 4,593            | 70,206     | 2069                      | 917                           |
| P-405                       | 1989              | DI                 | 100                     | 1.87                 | 2,738                            | 329              | 3,066      | 2069                      | 40                            |
| P-596                       | 1989              | DI                 | 150                     | 1.77                 | 2,308                            | 277              | 2,584      | 2069                      | 34                            |
| P-609                       | 1989              | DI                 | 250                     | 32.36                | 13,026                           | 912              | 13,937     | 2069                      | 182                           |
| P-657                       | 1989              | DI                 | 250                     | 26.43                | 11,303                           | 791              | 12,094     | 2069                      | 158                           |
| P-727                       | 1989              | DI                 | 300                     | 141.63               | 61,225                           | 4,286            | 65,511     | 2069                      | 856                           |
| P-731                       | 1989              | DI                 | 300                     | 155.07               | 64,999                           | 4,550            | 69,548     | 2069                      | 908                           |
| P-776                       | 1989              | DI                 | 300                     | 7.72                 | 8,471                            | 1,017            | 9,488      | 2069                      | 124                           |
| P-862                       | 1989              | DI                 | 300                     | 3.04                 | 3,877                            | 465              | 4,343      | 2069                      | 57                            |
| P-874                       | 1989              | DI                 | 250                     | 1.51                 | 4,059                            | 284              | 4,343      | 2069                      | 57                            |
| P-889                       | 1989              | DI                 | 150                     | 250.08               | 78,213                           | 5,475            | 83,688     | 2069                      | 1,093                         |
| P-912                       | 1989              | DI                 | 300                     | 240.41               | 104,336                          | 7,304            | 111,640    | 2069                      | 1,458                         |
| P-190                       | 1990              | DI                 | 150                     | 138.46               | 50,747                           | 6,090            | 56,837     | 2070                      | 727                           |
| P-664                       | 1990              | DI                 | 150                     | 6.81                 | 3,381                            | 406              | 3,786      | 2070                      | 48                            |
| P-742                       | 1990              | DI                 | 150                     | 27.13                | 7,708                            | 925              | 8,633      | 2070                      | 110                           |
| P-761                       | 1990              | DI                 | 150                     | 2.23                 | 3,218                            | 386              | 3,604      | 2070                      | 46                            |
| P-777                       | 1990              | DI                 | 300                     | 9.13                 | 7,991                            | 959              | 8,949      | 2070                      | 114                           |
| P-878                       | 1990              | DI                 | 150                     | 208.67               | 64,082                           | 7,690            | 71,772     | 2070                      | 918                           |
| P-893                       | 1990              | DI                 | 150                     | 17.82                | 5,726                            | 687              | 6,413      | 2070                      | 82                            |
| P-948                       | 1990              | DI                 | 150                     | 241.38               | 87,731                           | 10,528           | 98,259     | 2070                      | 1,256                         |
| P-954                       | 1990              | DI                 | 150                     | 1.98                 | 2,353                            | 282              | 2,635      | 2070                      | 34                            |
| P-964                       | 1990              | DI                 | 150                     | 6.65                 | 3,346                            | 402              | 3,748      | 2070                      | 48                            |
| P-15                        | 1992              | DI                 | 150                     | 156.85               | 42,975                           | 5,157            | 48,132     | 2072                      | 590                           |
| P-437                       | 1992              | DI                 | 150                     | 9.19                 | 3,887                            | 466              | 4,353      | 2072                      | 53                            |
| P-1018                      | 1993              | PE                 | 50                      | 78.63                | 22,226                           | 2,667            | 24,894     | 2073                      | 299                           |
| P-316                       | 1993              | PE                 | 50                      | 11.77                | 4,091                            | 491              | 4,582      | 2073                      | 55                            |
| P-747                       | 1993              | DI                 | 200                     | 139.05               | 59,393                           | 7,127            | 66,520     | 2073                      | 799                           |
| P-1078                      | 1994              | PVC                | 200                     | 10.49                | 4,825                            | 579              | 5,404      | 2074                      | 64                            |
| P-1091                      | 1994              | COP                | 25                      | 74.51                | 17,738                           | 2,129            | 19,867     | 2074                      | 234                           |
| P-536                       | 1994              | PVC                | 150                     | 27.18                | 12,925                           | 1,551            | 14,476     | 2074                      | 170                           |
| P-602                       | 1994              | DI                 | 150                     | 185.50               | 108,119                          | 12,974           | 121,094    | 2074                      | 1,425                         |
| P-602                       | 1994              | DI                 | 150                     | 197.27               | 110,626                          | 13,275           | 123,901    | 2074                      | 1,459                         |
| P-898                       | 1994              | PVC                | 200                     | 286.24               | 91,111                           | 10,933           | 102,044    | 2074                      | 1,201                         |
| P-986                       | 1994              | PVC                | 200                     | 90.04                | 28,052                           | 3,366            | 31,418     | 2074                      | 370                           |

**TABLE A-1  
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| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-1012                      | 1995              | DI                 | 100                     | 3.01                 | 2,948                            | 354              | 3,302      | 2075                      | 38                            |
| P-1013                      | 1995              | DI                 | 150                     | 0.55                 | 2,047                            | 246              | 2,293      | 2075                      | 26                            |
| P-1060                      | 1995              | COP                | 25                      | 46.35                | 16,926                           | 2,031            | 18,957     | 2075                      | 219                           |
| P-1063                      | 1995              | DI                 | 200                     | 176.69               | 81,195                           | 9,743            | 90,938     | 2075                      | 1,049                         |
| P-1063                      | 1995              | DI                 | 200                     | 176.69               | 60,875                           | 7,305            | 68,180     | 2075                      | 787                           |
| P-135                       | 1995              | COP                | 25                      | 40.21                | 11,558                           | 1,387            | 12,945     | 2075                      | 149                           |
| P-148                       | 1995              | DI                 | 150                     | 127.19               | 52,058                           | 6,247            | 58,305     | 2075                      | 673                           |
| P-185                       | 1995              | DI                 | 200                     | 46.86                | 20,529                           | 2,463            | 22,992     | 2075                      | 265                           |
| P-26                        | 1995              | DI                 | 300                     | 12.31                | 14,744                           | 1,769            | 16,513     | 2075                      | 191                           |
| P-278                       | 1995              | COP                | 25                      | 2.20                 | 842                              | 101              | 943        | 2075                      | 11                            |
| P-303                       | 1995              | CON                | 600                     | 95.08                | 119,147                          | 14,298           | 133,444    | 2075                      | 1,540                         |
| P-332                       | 1995              | COP                | 25                      | 8.55                 | 2,136                            | 256              | 2,392      | 2075                      | 28                            |
| P-34                        | 1995              | DI                 | 300                     | 13.90                | 11,001                           | 1,320            | 12,321     | 2075                      | 142                           |
| P-344                       | 1995              | DI                 | 150                     | 95.68                | 25,554                           | 3,066            | 28,620     | 2075                      | 330                           |
| P-455                       | 1995              | DI                 | 300                     | 21.34                | 11,362                           | 1,363            | 12,725     | 2075                      | 147                           |
| P-693                       | 1995              | DI                 | 300                     | 1.38                 | 3,200                            | 384              | 3,584      | 2075                      | 41                            |
| P-771                       | 1995              | PVC                | 200                     | 12.03                | 5,251                            | 630              | 5,881      | 2075                      | 68                            |
| P-829                       | 1995              | DI                 | 200                     | 8.93                 | 4,393                            | 527              | 4,921      | 2075                      | 57                            |
| P-855                       | 1995              | DI                 | 300                     | 230.78               | 119,277                          | 14,313           | 133,590    | 2075                      | 1,541                         |
| P-870                       | 1995              | DI                 | 300                     | 98.81                | 58,818                           | 7,058            | 65,876     | 2075                      | 760                           |
| P-937                       | 1995              | DI                 | 300                     | 211.29               | 102,612                          | 12,313           | 114,925    | 2075                      | 1,326                         |
| P-1111                      | 1996              | PVC                | 100                     | 96.15                | 27,814                           | 3,338            | 31,152     | 2076                      | 352                           |
| P-415                       | 1996              | PVC                | 250                     | 23.68                | 12,354                           | 1,483            | 13,837     | 2076                      | 157                           |
| P-522                       | 1996              | PVC                | 250                     | 131.06               | 72,810                           | 8,737            | 81,547     | 2076                      | 922                           |
| P-993                       | 1996              | PVC                | 250                     | 115.98               | 61,285                           | 7,354            | 68,640     | 2076                      | 776                           |
| P-1100                      | 1997              | DI                 | 250                     | 113.80               | 49,192                           | 5,903            | 55,095     | 2077                      | 611                           |
| P-100                       | 1998              | 0                  | 150                     | 2.49                 | 2,460                            | 295              | 2,755      | 2078                      | 30                            |
| P-1003                      | 1998              | CON                | 500                     | 1,421.90             | 1,416,859                        | 170,023          | 1,586,882  | 2078                      | 17,264                        |
| P-101                       | 1998              | 0                  | 150                     | 2.50                 | 2,462                            | 295              | 2,758      | 2078                      | 30                            |
| P-108                       | 1998              | DI                 | 150                     | 291.34               | 109,121                          | 13,095           | 122,216    | 2078                      | 1,330                         |
| P-1150                      | 1998              | COP                | 25                      | 18.04                | 3,123                            | 375              | 3,498      | 2078                      | 38                            |
| P-1173                      | 1998              | 0                  | 250                     | 3.45                 | 3,463                            | 416              | 3,879      | 2078                      | 42                            |
| P-1173A                     | 1998              | 0                  | 250                     | 3.26                 | 3,397                            | 408              | 3,805      | 2078                      | 41                            |
| P-179                       | 1998              | DI                 | 150                     | 253.74               | 71,879                           | 5,032            | 76,910     | 2078                      | 837                           |
| P-214                       | 1998              | DI                 | 200                     | 9.77                 | 5,897                            | 708              | 6,604      | 2078                      | 72                            |
| P-321                       | 1998              | DI                 | 200                     | 59.32                | 21,193                           | 2,543            | 23,737     | 2078                      | 258                           |
| P-396                       | 1998              | COP                | 25                      | 21.26                | 13,692                           | 1,643            | 15,335     | 2078                      | 167                           |
| P-526                       | 1998              | DI                 | 200                     | 25.78                | 11,937                           | 1,432            | 13,370     | 2078                      | 145                           |
| P-92                        | 1998              | 0                  | 300                     | 1.00                 | 3,045                            | 365              | 3,410      | 2078                      | 37                            |
| P-93                        | 1998              | 0                  | 300                     | 1.00                 | 3,044                            | 365              | 3,409      | 2078                      | 37                            |
| P-94                        | 1998              | 0                  | 150                     | 2.50                 | 2,462                            | 295              | 2,757      | 2078                      | 30                            |
| P-95                        | 1998              | 0                  | 150                     | 2.49                 | 2,461                            | 295              | 2,756      | 2078                      | 30                            |
| P-96                        | 1998              | 0                  | 300                     | 1.00                 | 3,044                            | 365              | 3,409      | 2078                      | 37                            |
| P-97                        | 1998              | 0                  | 150                     | 2.50                 | 2,462                            | 295              | 2,758      | 2078                      | 30                            |
| P-98                        | 1998              | 0                  | 150                     | 2.49                 | 2,460                            | 295              | 2,755      | 2078                      | 30                            |
| P-99                        | 1998              | 0                  | 300                     | 1.00                 | 3,045                            | 365              | 3,410      | 2078                      | 37                            |
| P-216                       | 1999              | DI                 | 300                     | 176.25               | 69,527                           | 4,867            | 74,393     | 2079                      | 794                           |
| P-478                       | 1999              | DI                 | 150                     | 139.75               | 55,076                           | 6,609            | 61,685     | 2079                      | 658                           |
| P-551                       | 1999              | PVC                | 200                     | 38.50                | 19,324                           | 1,353            | 20,677     | 2079                      | 221                           |
| P-654                       | 1999              | DI                 | 150                     | 44.17                | 16,543                           | 1,985            | 18,528     | 2079                      | 198                           |
| P-715                       | 1999              | PVC                | 200                     | 182.00               | 77,987                           | 5,459            | 83,446     | 2079                      | 891                           |
| P-774                       | 1999              | PVC                | 200                     | 237.53               | 122,110                          | 8,548            | 130,658    | 2079                      | 1,394                         |
| P-801                       | 1999              | DI                 | 150                     | 32.78                | 12,154                           | 1,458            | 13,612     | 2079                      | 145                           |
| P-903                       | 1999              | PVC                | 150                     | 77.25                | 31,075                           | 2,175            | 33,250     | 2079                      | 355                           |
| P-1026                      | 2000              | PVC                | 200                     | 78.94                | 36,100                           | 2,527            | 38,627     | 2080                      | 405                           |
| P-1058                      | 2000              | PVC                | 200                     | 236.57               | 93,051                           | 6,514            | 99,565     | 2080                      | 1,043                         |
| P-1121                      | 2000              | PVC                | 200                     | 86.80                | 32,432                           | 2,270            | 34,702     | 2080                      | 363                           |
| P-200                       | 2000              | PVC                | 150                     | 80.04                | 27,087                           | 3,250            | 30,338     | 2080                      | 318                           |
| P-249                       | 2000              | COP                | 25                      | 3.71                 | 12,406                           | 1,489            | 13,895     | 2080                      | 146                           |
| P-388                       | 2000              | COP                | 25                      | 63.53                | 24,263                           | 2,912            | 27,174     | 2080                      | 285                           |
| P-427                       | 2000              | DI                 | 300                     | 131.80               | 68,385                           | 8,206            | 76,591     | 2080                      | 802                           |
| P-428                       | 2000              | PVC                | 150                     | 426.60               | 162,425                          | 11,370           | 173,794    | 2080                      | 1,820                         |
| P-502                       | 2000              | PVC                | 200                     | 246.70               | 92,970                           | 6,508            | 99,478     | 2080                      | 1,042                         |
| P-514                       | 2000              | COP                | 19                      | 30.10                | 11,421                           | 1,371            | 12,792     | 2080                      | 134                           |
| P-581                       | 2000              | DI                 | 300                     | 148.74               | 56,228                           | 3,936            | 60,164     | 2080                      | 630                           |

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|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-607                       | 2000              | PVC                | 150                     | 83.82                | 44,441                           | 5,333            | 49,774     | 2080                      | 521                           |
| P-696                       | 2000              | COP                | 25                      | 12.06                | 2,641                            | 317              | 2,958      | 2080                      | 31                            |
| P-737                       | 2000              | PCLAS              | 300                     | 110.52               | 62,254                           | 4,358            | 66,611     | 2080                      | 698                           |
| P-787A                      | 2000              | PVC                | 200                     | 22.09                | 7,902                            | 553              | 8,455      | 2080                      | 89                            |
| P-803                       | 2000              | PCLAS              | 300                     | 115.61               | 63,602                           | 4,452            | 68,055     | 2080                      | 713                           |
| P-899                       | 2000              | PVC                | 200                     | 120.21               | 60,734                           | 4,251            | 64,985     | 2080                      | 681                           |
| P-1089                      | 2001              | PVC                | 150                     | 172.28               | 52,280                           | 6,274            | 58,553     | 2081                      | 602                           |
| P-146                       | 2001              | COP                | 19                      | 5.14                 | 1,289                            | 155              | 1,444      | 2081                      | 15                            |
| P-151A                      | 2001              | PVC                | 150                     | 26.80                | 12,152                           | 1,458            | 13,610     | 2081                      | 140                           |
| P-151B                      | 2001              | PVC                | 150                     | 13.40                | 7,041                            | 845              | 7,886      | 2081                      | 81                            |
| P-151C                      | 2001              | PVC                | 150                     | 6.60                 | 4,047                            | 486              | 4,533      | 2081                      | 47                            |
| P-181                       | 2001              | PVC                | 150                     | 327.46               | 91,687                           | 11,002           | 102,690    | 2081                      | 1,055                         |
| P-254                       | 2001              | PVC                | 150                     | 36.47                | 12,939                           | 1,553            | 14,492     | 2081                      | 149                           |
| P-325                       | 2001              | PVC                | 150                     | 59.00                | 20,512                           | 2,461            | 22,973     | 2081                      | 236                           |
| P-622                       | 2001              | PVC                | 150                     | 14.20                | 4,954                            | 595              | 5,549      | 2081                      | 57                            |
| P-676                       | 2001              | PVC                | 150                     | 56.83                | 24,573                           | 2,949            | 27,522     | 2081                      | 283                           |
| P-914                       | 2001              | PVC                | 150                     | 82.61                | 40,132                           | 4,816            | 44,948     | 2081                      | 462                           |
| P-996                       | 2001              | PVC                | 150                     | 31.93                | 12,784                           | 1,534            | 14,318     | 2081                      | 147                           |
| P-11                        | 2002              | COP                | 19                      | 21.85                | 10,596                           | 1,272            | 11,868     | 2082                      | 120                           |
| P-149                       | 2002              | COP                | 19                      | 24.40                | 3,215                            | 386              | 3,601      | 2082                      | 36                            |
| P-172                       | 2002              | PVC                | 200                     | 322.08               | 114,319                          | 13,718           | 128,037    | 2082                      | 1,292                         |
| P-212                       | 2002              | PVC                | 200                     | 165.92               | 74,112                           | 8,893            | 83,006     | 2082                      | 837                           |
| P-276                       | 2002              | PCLAS              | 300                     | 97.67                | 48,619                           | 3,403            | 52,023     | 2082                      | 525                           |
| P-289                       | 2002              | PVC                | 150                     | 105.40               | 34,107                           | 4,093            | 38,199     | 2082                      | 385                           |
| P-343                       | 2002              | PVC                | 200                     | 135.36               | 72,162                           | 8,659            | 80,822     | 2082                      | 815                           |
| P-379                       | 2002              | PCLAS              | 300                     | 74.85                | 42,462                           | 2,972            | 45,435     | 2082                      | 458                           |
| P-425                       | 2002              | PVC                | 150                     | 48.16                | 17,050                           | 2,046            | 19,096     | 2082                      | 193                           |
| P-436                       | 2002              | COP                | 19                      | 20.88                | 7,257                            | 871              | 8,128      | 2082                      | 82                            |
| P-443                       | 2002              | PVC                | 250                     | 131.35               | 51,596                           | 6,192            | 57,788     | 2082                      | 583                           |
| P-474                       | 2002              | PCLAS              | 300                     | 66.48                | 33,141                           | 2,320            | 35,461     | 2082                      | 358                           |
| P-484                       | 2002              | PVC                | 200                     | 83.55                | 37,140                           | 4,457            | 41,597     | 2082                      | 420                           |
| P-494                       | 2002              | PCLAS              | 150                     | 233.44               | 54,086                           | 6,490            | 60,576     | 2082                      | 611                           |
| P-540A                      | 2002              | PVC                | 150                     | 1.57                 | 2,264                            | 272              | 2,535      | 2082                      | 26                            |
| P-548                       | 2002              | PVC                | 200                     | 136.88               | 61,116                           | 7,334            | 68,450     | 2082                      | 691                           |
| P-641                       | 2002              | PCLAS              | 300                     | 77.50                | 40,628                           | 2,844            | 43,472     | 2082                      | 439                           |
| P-695                       | 2002              | PVC                | 150                     | 16.89                | 7,151                            | 858              | 8,009      | 2082                      | 81                            |
| P-778                       | 2002              | PCLAS              | 300                     | 100.50               | 56,492                           | 3,954            | 60,447     | 2082                      | 610                           |
| P-793                       | 2002              | PCLAS              | 300                     | 30.80                | 15,225                           | 1,066            | 16,291     | 2082                      | 164                           |
| P-87                        | 2002              | PVC                | 150                     | 17.35                | 7,250                            | 870              | 8,120      | 2082                      | 82                            |
| P-88                        | 2002              | PCLAS              | 300                     | 266.50               | 104,636                          | 7,325            | 111,961    | 2082                      | 1,130                         |
| P-998                       | 2002              | PVC                | 150                     | 14.10                | 4,933                            | 592              | 5,525      | 2082                      | 56                            |
| P-1019                      | 2003              | PVC                | 150                     | 391.23               | 139,882                          | 9,792            | 149,674    | 2083                      | 1,482                         |
| P-140                       | 2003              | DI                 | 300                     | 8.24                 | 7,626                            | 915              | 8,541      | 2083                      | 85                            |
| P-155                       | 2003              | PVC                | 200                     | 344.00               | 146,094                          | 10,227           | 156,320    | 2083                      | 1,548                         |
| P-192                       | 2003              | PVC                | 200                     | 258.63               | 127,256                          | 15,271           | 142,527    | 2083                      | 1,412                         |
| P-488                       | 2003              | PVC                | 200                     | 185.09               | 57,349                           | 4,014            | 61,363     | 2083                      | 608                           |
| P-644                       | 2003              | PVC                | 200                     | 78.91                | 29,843                           | 3,581            | 33,425     | 2083                      | 331                           |
| P-646                       | 2003              | PVC                | 150                     | 351.11               | 154,273                          | 18,513           | 172,786    | 2083                      | 1,711                         |
| P-687                       | 2003              | PVC                | 150                     | 420.33               | 168,867                          | 11,821           | 180,687    | 2083                      | 1,790                         |
| P-707                       | 2003              | PVC                | 200                     | 76.54                | 32,430                           | 3,892            | 36,322     | 2083                      | 360                           |
| P-726                       | 2003              | PVC                | 200                     | 11.16                | 6,280                            | 754              | 7,033      | 2083                      | 70                            |
| P-816                       | 2003              | PVC                | 200                     | 105.42               | 48,389                           | 5,807            | 54,196     | 2083                      | 537                           |
| P-819                       | 2003              | PVC                | 150                     | 213.05               | 77,708                           | 5,440            | 83,148     | 2083                      | 824                           |
| P-824                       | 2003              | PVC                | 200                     | 264.82               | 119,119                          | 14,294           | 133,413    | 2083                      | 1,321                         |
| P-861                       | 2003              | PVC                | 200                     | 7.01                 | 3,864                            | 464              | 4,328      | 2083                      | 43                            |
| P-916                       | 2003              | DI                 | 200                     | 112.02               | 46,618                           | 5,594            | 52,212     | 2083                      | 517                           |
| P-930A                      | 2003              | PVC                | 150                     | 15.04                | 5,946                            | 714              | 6,659      | 2083                      | 66                            |
| P-1109                      | 2004              | PE                 | 50                      | 49.81                | 11,161                           | 1,339            | 12,500     | 2084                      | 122                           |
| P-1140                      | 2004              | PVC                | 200                     | 94.32                | 40,113                           | 4,814            | 44,926     | 2084                      | 437                           |
| P-136                       | 2004              | PVC                | 150                     | 216.60               | 76,284                           | 5,340            | 81,624     | 2084                      | 794                           |
| P-16                        | 2004              | DI                 | 150                     | 27.94                | 8,693                            | 1,043            | 9,736      | 2084                      | 95                            |
| P-18                        | 2004              | DI                 | 600                     | 153.17               | 173,070                          | 20,768           | 193,838    | 2084                      | 1,885                         |
| P-182                       | 2004              | PVC                | 150                     | 139.10               | 52,977                           | 6,357            | 59,335     | 2084                      | 577                           |
| P-230                       | 2004              | DI                 | 600                     | 136.22               | 159,774                          | 19,173           | 178,947    | 2084                      | 1,740                         |
| P-282                       | 2004              | PVC                | 200                     | 112.26               | 51,197                           | 6,144            | 57,341     | 2084                      | 558                           |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-31A                       | 2004              | PVC                | 150                     | 7.87                 | 4,419                            | 530              | 4,949      | 2084                      | 48                            |
| P-336                       | 2004              | PVC                | 200                     | 141.73               | 69,619                           | 4,873            | 74,493     | 2084                      | 725                           |
| P-414                       | 2004              | PVC                | 150                     | 6.54                 | 4,135                            | 496              | 4,631      | 2084                      | 45                            |
| P-475                       | 2004              | PVC                | 200                     | 139.82               | 62,045                           | 7,445            | 69,491     | 2084                      | 676                           |
| P-568                       | 2004              | PVC                | 150                     | 165.90               | 65,979                           | 7,917            | 73,896     | 2084                      | 719                           |
| P-583                       | 2004              | PVC                | 200                     | 33.00                | 13,930                           | 1,672            | 15,602     | 2084                      | 152                           |
| P-60                        | 2004              | PVC                | 150                     | 106.00               | 40,413                           | 2,829            | 43,242     | 2084                      | 421                           |
| P-61                        | 2004              | PVC                | 150                     | 125.90               | 45,394                           | 3,178            | 48,572     | 2084                      | 472                           |
| P-720                       | 2004              | PVC                | 150                     | 203.04               | 67,407                           | 8,089            | 75,495     | 2084                      | 734                           |
| P-787                       | 2004              | PVC                | 150                     | 52.43                | 19,001                           | 1,330            | 20,331     | 2084                      | 198                           |
| P-942                       | 2004              | PVC                | 200                     | 105.74               | 46,157                           | 5,539            | 51,695     | 2084                      | 503                           |
| P-965                       | 2004              | PVC                | 150                     | 22.71                | 7,580                            | 910              | 8,489      | 2084                      | 83                            |
| P-1146                      | 2005              | PVC                | 200                     | 147.30               | 54,852                           | 6,582            | 61,434     | 2085                      | 587                           |
| P-174                       | 2005              | PVC                | 200                     | 256.42               | 109,594                          | 13,151           | 122,745    | 2085                      | 1,172                         |
| P-33                        | 2005              | PVC                | 200                     | 81.38                | 28,785                           | 3,454            | 32,239     | 2085                      | 308                           |
| P-357                       | 2005              | PVC                | 200                     | 174.83               | 76,920                           | 9,230            | 86,151     | 2085                      | 823                           |
| P-399                       | 2005              | COP                | 25                      | 2.31                 | 858                              | 103              | 961        | 2085                      | 9                             |
| P-40                        | 2005              | PVC                | 200                     | 5.50                 | 4,719                            | 566              | 5,285      | 2085                      | 50                            |
| P-430                       | 2005              | PVC                | 200                     | 90.70                | 37,610                           | 4,513            | 42,123     | 2085                      | 402                           |
| P-54                        | 2005              | PVC                | 150                     | 202.20               | 41,984                           | 2,939            | 44,923     | 2085                      | 429                           |
| P-55                        | 2005              | PVC                | 200                     | 11.00                | 9,360                            | 1,123            | 10,483     | 2085                      | 100                           |
| P-56                        | 2005              | PVC                | 200                     | 215.40               | 70,168                           | 8,420            | 78,589     | 2085                      | 751                           |
| P-57                        | 2005              | PVC                | 150                     | 32.20                | 16,425                           | 1,971            | 18,396     | 2085                      | 176                           |
| P-58                        | 2005              | DI                 | 300                     | 82.60                | 49,321                           | 5,919            | 55,240     | 2085                      | 528                           |
| P-59                        | 2005              | PVC                | 200                     | 54.07                | 23,275                           | 1,629            | 24,904     | 2085                      | 238                           |
| P-628                       | 2005              | COP                | 25                      | 33.72                | 7,001                            | 840              | 7,842      | 2085                      | 75                            |
| P-79                        | 2005              | PVC                | 200                     | 319.52               | 103,298                          | 12,396           | 115,694    | 2085                      | 1,105                         |
| P-80                        | 2005              | DI                 | 300                     | 990.40               | 380,565                          | 26,640           | 407,205    | 2085                      | 3,890                         |
| P-81                        | 2005              | DI                 | 300                     | 171.50               | 65,597                           | 4,592            | 70,188     | 2085                      | 670                           |
| P-82                        | 2005              | DI                 | 300                     | 255.67               | 94,860                           | 6,640            | 101,500    | 2085                      | 970                           |
| P-83                        | 2005              | DI                 | 300                     | 108.05               | 39,802                           | 2,786            | 42,588     | 2085                      | 407                           |
| P-84                        | 2005              | DI                 | 300                     | 190.28               | 69,769                           | 4,884            | 74,653     | 2085                      | 713                           |
| P-848                       | 2005              | COP                | 25                      | 34.06                | 10,293                           | 1,235            | 11,528     | 2085                      | 110                           |
| P-897                       | 2005              | PVC                | 200                     | 120.18               | 48,871                           | 5,864            | 54,735     | 2085                      | 523                           |
| P-901                       | 2005              | PVC                | 200                     | 252.71               | 111,837                          | 13,420           | 125,257    | 2085                      | 1,196                         |
| P-1011A                     | 2006              | PVC                | 100                     | 9.27                 | 4,106                            | 493              | 4,599      | 2086                      | 43                            |
| P-1053                      | 2006              | PVC                | 200                     | 4.26                 | 3,106                            | 373              | 3,478      | 2086                      | 33                            |
| P-1070                      | 2006              | PVC                | 200                     | 47.67                | 19,600                           | 2,352            | 21,952     | 2086                      | 206                           |
| P-21                        | 2006              | DI                 | 300                     | 13.33                | 10,766                           | 1,292            | 12,058     | 2086                      | 113                           |
| P-23                        | 2006              | PCLAS              | 300                     | 8.63                 | 8,845                            | 1,061            | 9,906      | 2086                      | 93                            |
| P-24                        | 2006              | PCLAS              | 300                     | 202.20               | 95,651                           | 11,478           | 107,129    | 2086                      | 1,005                         |
| P-27                        | 2006              | PVC                | 150                     | 1.81                 | 2,315                            | 278              | 2,593      | 2086                      | 24                            |
| P-279                       | 2006              | PVC                | 200                     | 130.00               | 60,956                           | 7,315            | 68,271     | 2086                      | 641                           |
| P-28                        | 2006              | PVC                | 200                     | 4.98                 | 4,574                            | 549              | 5,123      | 2086                      | 48                            |
| P-299A                      | 2006              | PVC                | 200                     | 7.00                 | 5,133                            | 616              | 5,749      | 2086                      | 54                            |
| P-30                        | 2006              | PVC                | 150                     | 15.80                | 6,107                            | 733              | 6,840      | 2086                      | 64                            |
| P-32                        | 2006              | PVC                | 150                     | 29.96                | 10,745                           | 1,289            | 12,034     | 2086                      | 113                           |
| P-327                       | 2006              | PCLAS              | 300                     | 12.97                | 7,940                            | 953              | 8,892      | 2086                      | 83                            |
| P-35                        | 2006              | PVC                | 200                     | 17.19                | 11,188                           | 1,343            | 12,531     | 2086                      | 118                           |
| P-354A                      | 2006              | PVC                | 150                     | 9.29                 | 4,721                            | 566              | 5,287      | 2086                      | 50                            |
| P-368                       | 2006              | MUN                | 50                      | 39.98                | 16,081                           | 1,930            | 18,011     | 2086                      | 169                           |
| P-421                       | 2006              | PVC                | 200                     | 259.23               | 114,454                          | 13,734           | 128,188    | 2086                      | 1,203                         |
| P-431                       | 2006              | PVC                | 200                     | 42.62                | 15,314                           | 1,838            | 17,152     | 2086                      | 161                           |
| P-543A                      | 2006              | PVC                | 200                     | 32.71                | 16,623                           | 1,995            | 18,618     | 2086                      | 175                           |
| P-595                       | 2006              | MUN                | 50                      | 40.54                | 16,771                           | 2,013            | 18,784     | 2086                      | 176                           |
| P-624                       | 2006              | PCLAS              | 300                     | 1.90                 | 3,412                            | 409              | 3,822      | 2086                      | 36                            |
| P-804                       | 2006              | PVC                | 200                     | 67.13                | 28,214                           | 3,386            | 31,600     | 2086                      | 297                           |
| P-804A                      | 2006              | PVC                | 200                     | 2.10                 | 3,781                            | 454              | 4,234      | 2086                      | 40                            |
| P-813A                      | 2006              | PVC                | 100                     | 9.27                 | 4,106                            | 493              | 4,599      | 2086                      | 43                            |
| P-831                       | 2006              | PVC                | 200                     | 191.30               | 90,843                           | 10,901           | 101,744    | 2086                      | 955                           |
| P-974                       | 2006              | PCLAS              | 300                     | 2.27                 | 3,563                            | 428              | 3,991      | 2086                      | 37                            |
| P-1                         | 2007              | DI                 | 250                     | 5.40                 | 6,104                            | 732              | 6,836      | 2087                      | 63                            |
| P-1002A                     | 2007              | PVC                | 150                     | 10.20                | 4,915                            | 590              | 5,504      | 2087                      | 51                            |
| P-1016A                     | 2007              | PVC                | 150                     | 15.81                | 6,110                            | 733              | 6,843      | 2087                      | 63                            |
| P-1072                      | 2007              | PVC                | 200                     | 154.00               | 57,854                           | 6,942            | 64,796     | 2087                      | 597                           |

**TABLE A-1  
MUNICIPALITY OF PORT HOPE  
Watermain Inventory, 2009**

| Assemblage/<br>Watermain ID | Construction Year | Watermain Material | Watermain Diameter (mm) | Watermain Length (m) | Total Adjusted Construction Cost | Engineering Cost | Total Cost | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----------------------------|-------------------|--------------------|-------------------------|----------------------|----------------------------------|------------------|------------|---------------------------|-------------------------------|
| P-1095A                     | 2007              | PVC                | 150                     | 11.81                | 8,840                            | 1,061            | 9,900      | 2087                      | 91                            |
| P-1142A                     | 2007              | PVC                | 150                     | 20.23                | 11,445                           | 1,373            | 12,818     | 2087                      | 118                           |
| P-145                       | 2007              | DI                 | 300                     | 3.18                 | 6,615                            | 794              | 7,409      | 2087                      | 68                            |
| P-215                       | 2007              | PVC                | 200                     | 75.10                | 30,413                           | 3,650            | 34,062     | 2087                      | 314                           |
| P-279A                      | 2007              | PVC                | 200                     | 55.74                | 26,571                           | 3,189            | 29,760     | 2087                      | 274                           |
| P-3                         | 2007              | DI                 | 300                     | 114.50               | 49,466                           | 5,936            | 55,401     | 2087                      | 511                           |
| P-302A                      | 2007              | PVC                | 150                     | 6.09                 | 4,039                            | 485              | 4,524      | 2087                      | 42                            |
| P-37                        | 2007              | PE                 | 38                      | 32.54                | 9,800                            | 1,176            | 10,976     | 2087                      | 101                           |
| P-375A                      | 2007              | PVC                | 150                     | 12.17                | 9,728                            | 1,167            | 10,896     | 2087                      | 100                           |
| P-3A                        | 2007              | DI                 | 300                     | 111.14               | 48,090                           | 5,771            | 53,860     | 2087                      | 497                           |
| P-3B                        | 2007              | DI                 | 300                     | 89.93                | 39,416                           | 4,730            | 44,146     | 2087                      | 407                           |
| P-3C                        | 2007              | DI                 | 300                     | 80.47                | 44,335                           | 5,320            | 49,655     | 2087                      | 458                           |
| P-3C                        | 2007              | DI                 | 300                     | 99.00                | 51,915                           | 6,230            | 58,144     | 2087                      | 536                           |
| P-4                         | 2007              | DI                 | 300                     | 181.30               | 78,408                           | 9,409            | 87,817     | 2087                      | 810                           |
| P-416A                      | 2007              | PVC                | 150                     | 10.38                | 4,953                            | 594              | 5,547      | 2087                      | 51                            |
| P-4A                        | 2007              | DI                 | 300                     | 113.37               | 53,399                           | 6,408            | 59,807     | 2087                      | 551                           |
| P-4B                        | 2007              | DI                 | 300                     | 129.02               | 55,403                           | 6,648            | 62,052     | 2087                      | 572                           |
| P-4C                        | 2007              | DI                 | 300                     | 27.34                | 16,497                           | 1,980            | 18,477     | 2087                      | 170                           |
| P-50                        | 2007              | PE                 | 50                      | 20.10                | 10,410                           | 1,249            | 11,659     | 2087                      | 107                           |
| P-51                        | 2007              | PVC                | 150                     | 19.95                | 6,179                            | 742              | 6,921      | 2087                      | 64                            |
| P-543                       | 2007              | PVC                | 200                     | 108.10               | 45,655                           | 5,479            | 51,133     | 2087                      | 471                           |
| P-613A                      | 2007              | PVC                | 150                     | 9.30                 | 4,723                            | 567              | 5,290      | 2087                      | 49                            |
| P-7                         | 2007              | DI                 | 250                     | 6.15                 | 10,310                           | 1,237            | 11,548     | 2087                      | 106                           |
| P-72                        | 2007              | DI                 | 300                     | 7.75                 | 8,485                            | 1,018            | 9,503      | 2087                      | 88                            |
| P-73                        | 2007              | PVC                | 150                     | 109.70               | 29,771                           | 2,084            | 31,855     | 2087                      | 294                           |
| P-74                        | 2007              | PVC                | 150                     | 51.00                | 24,254                           | 1,698            | 25,952     | 2087                      | 239                           |
| P-75                        | 2007              | PVC                | 150                     | 63.00                | 22,004                           | 1,540            | 23,544     | 2087                      | 217                           |
| P-76                        | 2007              | PVC                | 150                     | 90.50                | 34,164                           | 2,391            | 36,555     | 2087                      | 337                           |
| P-8                         | 2007              | DI                 | 300                     | 15.65                | 11,716                           | 1,406            | 13,122     | 2087                      | 121                           |
| P-843A                      | 2007              | PVC                | 150                     | 19.20                | 6,832                            | 820              | 7,651      | 2087                      | 71                            |
| P-920A                      | 2007              | PVC                | 150                     | 15.72                | 6,090                            | 731              | 6,821      | 2087                      | 63                            |
| P-963A                      | 2007              | PVC                | 150                     | 3.56                 | 3,500                            | 420              | 3,920      | 2087                      | 36                            |
| P-1063A                     | 2008              | DI                 | 200                     | 14.50                | 7,600                            | 912              | 8,511      | 2088                      | 77                            |
| P-201A                      | 2008              | DI                 | 300                     | 118.50               | 91,244                           | 10,949           | 102,194    | 2088                      | 926                           |
| P-201B                      | 2008              | DI                 | 300                     | 94.40                | 57,759                           | 6,931            | 64,690     | 2088                      | 586                           |
| P-201C                      | 2008              | DI                 | 300                     | 55.36                | 32,439                           | 3,893            | 36,332     | 2088                      | 329                           |
| P-201D                      | 2008              | DI                 | 300                     | 103.70               | 61,144                           | 7,337            | 68,482     | 2088                      | 620                           |
| P-201E                      | 2008              | DI                 | 300                     | 165.70               | 77,387                           | 9,286            | 86,674     | 2088                      | 785                           |
| P-201F                      | 2008              | DI                 | 200                     | 14.30                | 8,792                            | 1,055            | 9,847      | 2088                      | 89                            |
| P-294A                      | 2008              | PVC                | 150                     | 11.50                | 6,004                            | 720              | 6,724      | 2088                      | 61                            |
| P-451                       | 2008              | PVC                | 150                     | 290.97               | 127,345                          | 15,281           | 142,627    | 2088                      | 1,292                         |
| P-469A                      | 2008              | PVC                | 150                     | 125.00               | 45,111                           | 5,413            | 50,524     | 2088                      | 458                           |
| P-473                       | 2008              | PVC                | 200                     | 161.99               | 63,651                           | 7,638            | 71,289     | 2088                      | 646                           |
| P-518A                      | 2008              | DI                 | 200                     | 12.00                | 7,893                            | 947              | 8,840      | 2088                      | 80                            |
| P-547A                      | 2008              | PVC                | 150                     | 13.00                | 7,132                            | 856              | 7,988      | 2088                      | 72                            |
| P-851B                      | 2008              | PVC                | 150                     | 38.20                | 10,879                           | 1,305            | 12,184     | 2088                      | 110                           |
| P-997                       | 2008              | PVC                | 150                     | 75.31                | 28,853                           | 3,462            | 32,315     | 2088                      | 293                           |
|                             |                   |                    |                         |                      | 38,878,292                       | 4,219,151        | 43,097,443 |                           | 536,175                       |

TABLE A-2  
MUNICIPALITY OF FORT HOPE  
Other Water Assets Inventory, 2009

| Asset Name  | Description #1   | Year | Historic Cost | Useful Life | Replacement Cost | Deflator Index | Estimated Replacement Year | Replacement Cost | Annual Lifecycle Contribution |
|---|--|------|---------------|-------------|------------------|----------------|----------------------------|------------------|-------------------------------|
| Water Distribution Garage                                 | can't find in minutes  | 1980 | 129,990       | 50          | 420,000          | 30.95%         | 2030                       | 480,911          | 22,002                        |
| Victoria St. Booster Station                              | can't find in minutes  | 1960 | 20,748        | 50          | 218,400          | 9.50%          | 2010                       | 250,074          | Cap. Forecast                 |
| Victoria St. Booster Station - Pump #1                    | 5,011 M <sup>3</sup> /d variable speed pump                              | 2007 | 223,056       | 30          | 307              | 90%            | 2037                       | 246,846          | 8,117                         |
| Jocelyn St. Reservoir                                     | Reservoir Pumping Station  | 1976 | 375,000       | 50          | 375,000          | 21%            | 2026                       | 429,385          | 24,980                        |
| Jocelyn St. - Generator                                   |  | 2000 | -             | 30          | -                | 64%            | 2030                       | -                | -                             |
| Jocelyn St. Reservoir Pumps #1                            | 1,571 M <sup>3</sup> /d reservoir pump                                   | 1999 | -             | 30          | -                | 60%            | 2029                       | -                | -                             |
| Jocelyn St. Reservoir Pumps #2                            | 1,571 M <sup>3</sup> /d reservoir pump                                   | 1997 | -             | 30          | -                | 57%            | 2027                       | -                | -                             |
| Jocelyn St. Reservoir Pumps #3                            | 13,092 M <sup>3</sup> /d reservoir pump                                  | 1976 | 325,000       | 30          | 50               | 21%            | 2026                       | 1,520,662        | Cap. Forecast                 |
| Jocelyn St. Reservoir - Storage Tank                      | 2,270 M <sup>3</sup> Reservoir   | 2001 | 205,000       | 20          | 12,500           | 67%            | 2021                       | 959,187          | 55,801                        |
| Jocelyn St. Reservoir - Chlorination System               |  | 2001 | 12,200        | 20          | 12,500           | 67%            | 2021                       | 14,313           | 1,237                         |
| Dorset St. Standpipe                                      | 1,080 M <sup>3</sup> Standpipe   | 1977 | 207,292       | 50          | 876,500          | 23.65%         | 2027                       | 1,003,616        | 54,718                        |
| Water Treatment Plant                                     | Excel file (Link) is a work-in-progress                                  | 2005 | 19,718,296    | 50          | 22,500,000       | 87.79%         | 2055                       | 25,763,104       | Cap. Forecast                 |
| Radio Detection Service Line Locator                      |  | 2005 | 8,086         | 10          | 9,500            | 79%            | 2015                       | 10,878           | Cap. Forecast                 |
| Trench Box  |  | 1995 | 15,000        | 10          | 15,000           | 95%            | 2008                       | 17,175           | Cap. Forecast                 |
| Zenopure Osmosis system                                   |  | 2005 | -             | 5           | -                | 79%            | 2010                       | -                | -                             |
| Amperometricitrator                                       |  | 2001 | 5,638         | 5           | 5,000            | 67%            | 2008                       | 5,725            | Cap. Forecast                 |
| Man lift - elevated platform                              |  | 2006 | 11,340        | 10          | 10,000           | 85%            | 2016                       | 11,450           | Cap. Forecast                 |
| Zennon Software   |  | -    | -             | 5           | -                | -              | 2008                       | -                | Cap. Forecast                 |
| 1994 Chevrolet Pickup - Truck #3 (scrapped in April 2008) | disposed of Apr 23/08 - scrapped in PW Yard - still have, but no licence | 1994 | -             | 7           | -                | 53%            | 2008                       | -                | Cap. Forecast                 |
| 1995 Home Utility Trailer                                 |  | 1995 | 1             | 7           | 7                | 55%            | 2008                       | 2                | Cap. Forecast                 |
| 1998 GMC Safari Van - Truck #1 (scrapped in June 2008)    | disposed of July 2008 - scrapped in PW Yard - still have, but no licence | 1998 | -             | 7           | 35,000           | 58%            | 2008                       | 40,076           | Cap. Forecast                 |
| 2000 Chevrolet GM Pickup - Truck #5                       |  | 2004 | 14,605        | 7           | 29,500           | 75%            | 2008                       | 33,778           | Cap. Forecast                 |
| 2003 Chevrolet Cube Van - Truck #4                        |  | 2006 | 17,750        | 7           | 29,500           | 85%            | 2010                       | 20,967           | Cap. Forecast                 |
| 2003 Chevrolet Silverado - Truck #2                       |  | 2007 | 14,818        | 7           | 29,500           | 90%            | 2010                       | 33,778           | Cap. Forecast                 |
| 2008 Chevrolet Silverado - Truck #3                       |  | 2008 | 27,592        | 7           | 29,500           | 99%            | 2015                       | 33,778           | Cap. Forecast                 |
| 2009 Chevrolet Express Cargo Van - Truck #1               |  | 2008 | 31,392        | 7           | 31,706           | 99%            | 2015                       | 31,706           | Cap. Forecast                 |
| 2007 Nand Trailer (Generator separate)                    |  | 2007 | 14,904        | 7           | 16,494           | 90%            | 2014                       | 16,494           | Cap. Forecast                 |
| John Deere 325 Garden Tractor                             |  | 2001 | 6,660         | 5           | 5,000            | 67%            | 2008                       | 5,725            | Cap. Forecast                 |
| 2003 Ford Winstar Van (03-6)                              |  | 2008 | 7,214         | 7           | 7,287            | 99%            | 2010                       | 7,287            | Cap. Forecast                 |
|   |  |      | 21,391,582    |             | 24,570,400       |                |                            | 30,936,917       | 166,855                       |

**TABLE A-3  
MUNICIPALITY OF PORT HOPE  
Sewermain Inventory, 2009**

| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0327 | North Street       | VC       | 250                   | 47.50              | 1.91              | A              | 24,380  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0353 | North Street       | VC       | 225                   | 55.80              | 2.26              | B              | 22,176  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0385 | North Street       | VC       | 200                   | 80.50              | 2.17              | B              | 32,896  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0415 | North Street       | VC       | 250                   | 77.70              | 2.55              | B              | 25,040  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0449 | Bruton Lane        | VC       | 200                   | 84.00              | 3.00              | B              | 37,836  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0477 | Bruton Lane        | VC       | 200                   | 93.90              | 3.00              | B              | 32,797  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0479 | Bruton Lane        | VC       | 200                   | 30.00              | 2.27              | B              | 8,592   | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA1635 | Bruton Street      | VC       | 200                   | 89.00              | 2.29              | B              | 39,268  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA1637 | Bruton Street      | VC       | 200                   | 88.70              | 1.70              | A              | 39,292  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA1639 | Julia Street       | VC       | 200                   | 56.70              | 1.69              | A              | 18,987  | 1901              | 1901            | 40          | 1941                      | Cap. Forecast                 |
| SA0083 | Ridout Street      | VC       | 250                   | 70.30              | 3.00              | B              | 34,653  | 1903              | 1903            | 40          | 1943                      | Cap. Forecast                 |
| SA0091 | Ridout Street      | VC       | 300                   | 95.10              | 1.86              | A              | 48,768  | 1903              | 1903            | 40          | 1943                      | Cap. Forecast                 |
| SA0093 | Ridout Street      | VC       | 250                   | 72.00              | 1.12              | A              | 29,712  | 1903              | 1903            | 40          | 1943                      | Cap. Forecast                 |
| SA0095 | Ridout Street      | VC       | 300                   | 88.70              | 3.11              | C              | 45,997  | 1903              | 1903            | 40          | 1943                      | Cap. Forecast                 |
| SA0097 | Ridout Street      | VC       | 300                   | 72.20              | 3.78              | C              | 40,004  | 1903              | 1903            | 40          | 1943                      | Cap. Forecast                 |
| SA0107 | Church Street      | VC       | 200                   | 50.00              | 2.88              | B              | 20,225  | 1904              | 1904            | 40          | 1944                      | Cap. Forecast                 |
| SA0109 | Church Street      | VC       | 200                   | 40.50              | 2.92              | B              | 17,504  | 1904              | 1904            | 40          | 1944                      | Cap. Forecast                 |
| SA1319 | Baldwin Street     | VC       | 200                   | 71.60              | 3.71              | C              | 31,848  | 1904              | 1904            | 40          | 1944                      | Cap. Forecast                 |
| SA1779 | Baldwin Street     | VC       | 200                   | 91.40              | 3.71              | C              | 53,681  | 1904              | 1904            | 40          | 1944                      | Cap. Forecast                 |
| SA0453 | Mill Street        | VC       | 250                   | 79.60              | 1.80              | A              | 31,810  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0455 | Mill Street        | VC       | 250                   | 82.90              | 2.12              | B              | 46,269  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0457 | Ontario Street     | VC       | 250                   | 27.70              | 2.93              | B              | 8,225   | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0671 | Ontario Street     | VC       | 250                   | 67.94              | 4.56              | D              | 28,926  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0673 | Ellen Street       | VC       | 200                   | 99.30              | 2.75              | B              | 42,218  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0675 | Ellen Street       | VC       | 200                   | 91.10              | 3.00              | B              | 41,838  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0715 | Ellen Street       | VC       | 200                   | 85.70              | 2.57              | B              | 40,291  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0717 | Ontario Street     | VC       | 250                   | 25.90              | 3.34              | C              | 10,202  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0719 | Ontario Street     | VC       | 200                   | 82.80              | 3.00              | B              | 25,681  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0731 | Bloomsgrove Avenue | VC       | 200                   | 93.00              | 2.61              | B              | 42,382  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0733 | Bloomsgrove Avenue | VC       | 200                   | 96.60              | 2.79              | B              | 41,444  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0735 | Bloomsgrove Avenue | VC       | 200                   | 93.30              | 2.46              | B              | 54,279  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0737 | Bloomsgrove Avenue | VC       | 200                   | 93.00              | 2.69              | B              | 40,413  | 1906              | 1906            | 40          | 1946                      | Cap. Forecast                 |
| SA0035 | Bedford Street     | VC       | 200                   | 15.50              | 1.95              | A              | 5,835   | 1910              | 1910            | 40          | 1950                      | Cap. Forecast                 |
| SA0051 | Bedford Street     | VC       | 200                   | 98.70              | 2.16              | B              | 59,360  | 1910              | 1910            | 40          | 1950                      | Cap. Forecast                 |
| SA0059 | Bedford Street     | VC       | 200                   | 98.00              | 2.47              | B              | 43,814  | 1910              | 1910            | 40          | 1950                      | Cap. Forecast                 |
| SA0063 | Bedford Street     | VC       | 200                   | 79.90              | 2.75              | B              | 32,725  | 1910              | 1910            | 40          | 1950                      | Cap. Forecast                 |
| SA0065 | Bedford Street     | VC       | 200                   | 102.00             | 2.79              | B              | 33,148  | 1910              | 1910            | 40          | 1950                      | Cap. Forecast                 |
| SA0099 | Julia Street       | VC       | 200                   | 62.00              | 2.98              | B              | 23,661  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0101 | Julia Street       | VC       | 200                   | 60.80              | 3.00              | B              | 23,318  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0459 | Martha Street      | VC       | 250                   | 94.20              | 3.23              | C              | 39,787  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0461 | Ellen Street       | VC       | 200                   | 80.60              | 2.17              | B              | 36,862  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0463 | Ellen Street       | VC       | 200                   | 28.40              | 3.00              | B              | 17,976  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0465 | Martha Street      | VC       | 250                   | 76.80              | 3.15              | C              | 30,319  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0467 | Margaret Street    | VC       | 250                   | 76.50              | 2.09              | B              | 28,620  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0581 | Margaret Street    | VC       | 250                   | 76.00              | 2.04              | B              | 34,377  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0583 | Margaret Street    | VC       | 250                   | 108.50             | 2.04              | B              | 47,964  | 1912              | 1912            | 40          | 1952                      | Cap. Forecast                 |
| SA0341 | Alexander Street   | VC       | 225                   | 107.90             | 2.81              | B              | 49,179  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0343 | Alexander Street   | VC       | 225                   | 116.10             | 2.80              | B              | 39,759  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0345 | Alexander Street   | VC       | 225                   | 87.80              | 3.11              | C              | 37,284  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0347 | Alexander Street   | VC       | 225                   | 86.70              | 3.22              | C              | 27,098  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0815 | William Street     | VC       | 200                   | 13.10              | 2.07              | B              | 3,752   | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0817 | William Street     | VC       | 200                   | 75.00              | 3.00              | B              | 35,258  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0925 | William Street     | VC       | 200                   | 87.80              | 3.00              | B              | 38,924  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA1141 | Smith Street       | VC       | 200                   | 128.00             | 3.31              | C              | 66,899  | 1913              | 1913            | 40          | 1953                      | Cap. Forecast                 |
| SA0159 | Dorset Street W.   | VC       | 200                   | 106.40             | 2.00              | A              | 38,084  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0161 | Dorset Street W.   | VC       | 200                   | 47.00              | 2.40              | B              | 17,397  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0163 | Dorset Street W.   | VC       | 200                   | 121.60             | 1.58              | A              | 46,056  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0165 | Dorset Street W.   | VC       | 200                   | 124.60             | 1.48              | A              | 52,758  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0167 | Dorset Street W.   | VC       | 200                   | 131.46             | 1.89              | A              | 72,296  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0169 | Dorset Street W.   | VC       | 200                   | 12.79              | 5.43              | E              | 4,467   | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0827 | Ward Street        | VC       | 225                   | 34.40              | 2.25              | B              | 10,031  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0831 | Armour Street      | VC       | 150                   | 109.60             | 1.67              | A              | 41,729  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0833 | Ward Street        | VC       | 225                   | 71.90              | 4.55              | D              | 23,979  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0991 | King Street        | VC       | 225                   | 95.10              | 2.49              | B              | 45,447  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0993 | King Street        | VC       | 225                   | 141.70             | 4.02              | D              | 63,005  | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA1821 | Armour Street      | VC       | 150                   | 15.20              | 3.00              | B              | 4,195   | 1915              | 1915            | 40          | 1955                      | Cap. Forecast                 |
| SA0937 | King Street        | VC       | 250                   | 76.80              | 2.96              | B              | 26,741  | 1916              | 1916            | 40          | 1956                      | Cap. Forecast                 |
| SA0939 | King Street        | VC       | 250                   | 93.60              | 3.33              | C              | 33,691  | 1916              | 1916            | 40          | 1956                      | Cap. Forecast                 |
| SA0941 | King Street        | VC       | 225                   | 92.50              | 2.34              | B              | 40,752  | 1916              | 1916            | 40          | 1956                      | Cap. Forecast                 |

**TABLE A-3  
MUNICIPALITY OF PORT HOPE  
Sewermain Inventory, 2009**

| D      | Road Name/Location   | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|----------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0945 | King Street          | VC       | 225                   | 94.20              | 2.73              | B              | 35,342  | 1916              | 1916            | 40          | 1956                      | Cap. Forecast                 |
| SA0947 | King Street          | VC       | 250                   | 7.90               | 3.43              | C              | 2,511   | 1916              | 1916            | 40          | 1956                      | Cap. Forecast                 |
| SA0949 | King Street          | VC       | 250                   | 119.20             | 2.96              | B              | 43,268  | 1916              | 1916            | 40          | 1956                      | Cap. Forecast                 |
| SA0851 | Princess Street      | VC       | 200                   | 12.60              | 1.62              | A              | 19,092  | 1919              | 1919            | 40          | 1959                      | Cap. Forecast                 |
| SA0853 | Princess Street      | VC       | 200                   | 98.40              | 3.00              | B              | 38,023  | 1919              | 1919            | 40          | 1959                      | Cap. Forecast                 |
| SA0855 | Princess Street      | VC       | 200                   | 96.30              | 1.49              | A              | 27,529  | 1919              | 1919            | 40          | 1959                      | Cap. Forecast                 |
| SA0857 | Princess Street      | VC       | 200                   | 15.20              | 1.51              | A              | 4,035   | 1919              | 1919            | 40          | 1959                      | Cap. Forecast                 |
| SA1811 | Princess Street      | VC       | 200                   | 12.80              | 1.57              | A              | 7,335   | 1919              | 1919            | 40          | 1959                      | Cap. Forecast                 |
| SA0179 | John Street          | VC       | 250                   | 60.02              | 1.84              | A              | 18,532  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA0181 | John Street          | VC       | 250                   | 55.00              | 1.68              | A              | 19,115  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA0183 | Park Street          | VC       | 200                   | 120.70             | 2.40              | B              | 58,189  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA0193 | John Street          | VC       | 250                   | 106.00             | 1.20              | A              | 37,127  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA1629 | Bruton Street        | VC       | 200                   | 82.70              | 1.46              | A              | 31,794  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA1631 | Bruton Street        | VC       | 225                   | 77.70              | 1.45              | A              | 44,650  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA1633 | Bruton Street        | VC       | 200                   | 82.00              | 1.61              | A              | 31,608  | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA1789 | Pidgeon Hill Road    | VC       | 150                   | 7.90               | 3.00              | B              | 5,879   | 1920              | 1920            | 40          | 1960                      | Cap. Forecast                 |
| SA0661 | Ontario Street       | VC       | 225                   | 208.20             | 2.63              | B              | 72,520  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0663 | Ontario Street       | VC       | 225                   | 8.70               | 2.68              | B              | 2,537   | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0667 | Ontario Street       | VC       | 225                   | 128.60             | 2.19              | B              | 67,026  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0669 | Ontario Street       | VC       | 225                   | 125.30             | 2.30              | B              | 40,473  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0729 | Hope Street          | VC       | 225                   | 42.53              | 3.00              | B              | 18,307  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0753 | Hope Street N.       | VC       | 225                   | 147.06             | 1.65              | A              | 65,390  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0755 | Harcourt Street      | VC       | 225                   | 93.00              | 2.22              | B              | 31,055  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0757 | Harcourt Street      | VC       | 225                   | 101.30             | 2.53              | B              | 49,223  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0763 | Harcourt Street      | VC       | 225                   | 93.00              | 2.54              | B              | 50,740  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0765 | Harcourt Street      | VC       | 225                   | 92.30              | 2.52              | B              | 54,473  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0767 | Easement             | VC       | 250                   | 67.10              | 1.97              | A              | 24,423  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0921 | Dorset Street E.     | VC       | 250                   | 100.90             | 4.48              | D              | 47,968  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0935 | Dorset Street E.     | VC       | 250                   | 84.40              | 4.69              | D              | 38,440  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA1213 | Dorset Street E.     | VC       | 250                   | 61.00              | 2.42              | B              | 20,081  | 1922              | 1922            | 40          | 1962                      | Cap. Forecast                 |
| SA0721 | College Street       | VC       | 225                   | 139.30             | 1.72              | A              | 53,448  | 1923              | 1923            | 40          | 1963                      | Cap. Forecast                 |
| SA0723 | College Street       | VC       | 225                   | 138.70             | 2.51              | B              | 56,192  | 1923              | 1923            | 40          | 1963                      | Cap. Forecast                 |
| SA1025 | Lake Street          | STL      | 600                   | 27.52              | 3.00              | B              | 52,426  | 1957              | 1963            |             | 1963                      | Cap. Forecast                 |
| SA1061 | Lake Street          | STL      | 600                   | 224.80             | 3.00              | B              | 430,213                                       | 1956              | 1963            |             | 1963                      | Cap. Forecast                 |
| SA1063 | Lake Street          | STL      | 600                   | 80.00              | 3.00              | B              | 152,400                                       | 1956              | 1963            |             | 1963                      | Cap. Forecast                 |
| SA0033 | Cavan Street         | VC       | 225                   | 123.10             | 1.47              | A              | 52,098  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0039 | Cavan Street         | VC       | 225                   | 82.00              | 1.69              | A              | 32,947  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0047 | Cavan Street         | VC       | 200                   | 181.40             | 1.31              | A              | 74,404  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0067 | Cavan Street         | VC       | 300                   | 87.20              | 1.91              | A              | 42,840  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0069 | Cavan Street         | VC       | 250                   | 39.30              | 2.01              | B              | 26,439  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0131 | Cavan Street         | VC       | 300                   | 75.60              | 1.24              | A              | 31,007  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0219 | Cavan Street         | VC       | 300                   | 3.40               | 1.97              | A              | 1,544   | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0221 | Sullivan Street      | VC       | 200                   | 124.40             | 2.37              | B              | 63,185  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0229 | Sherbourne Street    | VC       | 200                   | 70.00              | 1.45              | A              | 32,360  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0231 | Sherbourne Street    | VC       | 200                   | 68.00              | 1.62              | A              | 25,923  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0241 | Durham Street        | VC       | 150                   | 130.50             | 1.90              | A              | 58,870  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0243 | Durham Street        | VC       | 150                   | 56.40              | 1.65              | A              | 26,194  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0249 | Cavan Street         | VC       | 300                   | 93.37              | 1.77              | A              | 43,874  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0255 | Sullivan Street      | VC       | 200                   | 116.50             | 4.73              | D              | 48,089  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0257 | Sullivan Street      | VC       | 200                   | 45.00              | 3.66              | C              | 21,704  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0259 | Little Hope Street   | VC       | 200                   | 92.70              | 3.43              | C              | 48,175  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0285 | Cavan Street         | VC       | 300                   | 75.30              | 1.63              | A              | 36,728  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0519 | Julia Street         | VC       | 200                   | 6.70               | 1.69              | A              | 3,747   | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0557 | Charles Street       | VC       | 200                   | 92.00              | 4.30              | D              | 40,046  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0559 | Julia Street         | VC       | 200                   | 63.40              | 1.90              | A              | 20,765  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0647 | Charles Street       | VC       | 200                   | 93.00              | 2.55              | B              | 36,476  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0903 | DeBlaquire Street S. | VC       | 200                   | 50.00              | 1.52              | A              | 21,146  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0905 | DeBlaquire Street S. | VC       | 200                   | 94.50              | 1.77              | A              | 32,957  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0907 | DeBlaquire Street S. | VC       | 250                   | 64.30              | 1.68              | A              | 23,650  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0909 | Dorset Street E.     | VC       | 250                   | 73.60              | 3.00              | B              | 27,759  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0911 | Dorset Street E.     | VC       | 250                   | 97.50              | 3.34              | C              | 50,678  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA1229 | Easment              | VC       | 150                   | 102.00             | 1.02              | A              | 43,952  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA1323 | Charles Street       | VC       | 200                   | 86.90              | 2.65              | B              | 38,666  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA1623 | Charles Street       | VC       | 200                   | 55.80              | 1.89              | A              | 16,779  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA1777 | Sherbourne Street    | VC       | 200                   | 32.10              | 1.49              | A              | 14,426  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA1801 | Cavan Street         | VC       | 250                   | 39.60              | 3.00              | B              | 23,559  | 1925              | 1925            | 40          | 1965                      | Cap. Forecast                 |
| SA0023 | Seymour Street       | VC       | 200                   | 62.50              | 2.38              | B              | 27,742  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0027 | Seymour Street       | VC       | 200                   | 53.90              | 2.50              | B              | 33,153  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0769 | Easement             | VC       | 250                   | 23.00              | 3.00              | B              | 6,829   | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |

**TABLE A-3  
MUNICIPALITY OF PORT HOPE  
Sewermain Inventory, 2009**

| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0771 | Easement           | VC       | 250                   | 22.00              | 3.00              | B              | 8,501   | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0773 | Easement           | VC       | 250                   | 28.00              | 3.00              | B              | 10,282  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0835 | Ward Street        | VC       | 250                   | 53.60              | 6.44              | E              | 23,222  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0837 | Ward Street        | VC       | 300                   | 160.90             | 4.23              | D              | 68,850  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0839 | Ward Street        | VC       | 600                   | 158.37             | 2.09              | B              | 115,269                                       | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0847 | Ward Street        | VC       | 600                   | 44.98              | 2.39              | B              | 28,289  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0849 | Ward Street        | VC       | 600                   | 82.97              | 1.87              | A              | 60,565  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0865 | Ward Street        | VC       | 600                   | 95.59              | 2.41              | B              | 61,595  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0867 | Ward Street        | VC       | 600                   | 77.50              | 1.06              | A              | 38,445  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0869 | Mill Street        | VC       | 600                   | 55.00              | 1.83              | A              | 24,489  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0871 | Mill Street        | VC       | 600                   | 80.00              | 2.70              | B              | 47,249  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA1135 | Ward Street        | VC       | 600                   | 131.00             | 2.13              | B              | 74,861  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA1889 | Ward Street        | VC       | 600                   | 33.16              | 3.00              | B              | 19,921  | 1929              | 1929            | 40          | 1969                      | Cap. Forecast                 |
| SA0019 | Pine Street        | VC       | 225                   | 114.00             | 2.34              | B              | 35,210  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0041 | Craig Street       | VC       | 200                   | 24.00              | 1.34              | A              | 17,166  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0043 | Craig Street       | VC       | 200                   | 25.00              | 3.00              | B              | 11,097  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0211 | South Street       | VC       | 150                   | 64.00              | 3.00              | B              | 21,599  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0213 | South Street       | VC       | 150                   | 70.00              | 3.00              | B              | 33,097  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0329 | Easement           | VC       | 250                   | 50.00              | 1.34              | A              | 17,877  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0331 | Easement           | VC       | 250                   | 35.00              | 1.47              | A              | 11,627  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0761 | Hope Street        | VC       | 200                   | 37.65              | 1.33              | A              | 9,993   | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0801 | Hope Street        | VC       | 200                   | 74.90              | 2.01              | B              | 25,387  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0803 | Hope Street        | VC       | 200                   | 91.30              | 1.94              | A              | 36,045  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0805 | Hope Street        | VC       | 200                   | 85.89              | 3.00              | B              | 38,377  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0807 | Hope Street        | VC       | 200                   | 78.32              | 3.00              | B              | 42,115  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0913 | Hope Street        | VC       | 200                   | 88.00              | 2.20              | B              | 40,950  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0915 | Hope Street        | VC       | 200                   | 79.90              | 3.00              | B              | 44,536  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0917 | Hope Street        | VC       | 200                   | 92.30              | 2.61              | B              | 44,150  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1093 | Easement           | VC       | 200                   | 47.50              | 1.74              | A              | 14,576  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1199 | Chestnut Hill      | VC       | 225                   | 43.90              | 3.00              | B              | 30,517  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1201 | Craig Street       | VC       | 200                   | 25.00              | 3.00              | B              | 9,128   | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1781 | Walton Street      | VC       | 200                   | 53.60              | 1.31              | A              | 24,070  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1795 | Victoria Street    | VC       | 200                   | 18.30              | 3.00              | B              | 11,146  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1799 | Easement           | VC       | 150                   | 4.90               | 0.93              | A              | 3,218   | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA1817 | Bush Street        | VC       | 200                   | 117.80             | 2.21              | B              | 53,421  | 1930              | 1930            | 40          | 1970                      | Cap. Forecast                 |
| SA0881 | Elgin Street       | VC       | 200                   | 69.20              | 2.05              | B              | 27,692  | 1935              | 1935            | 40          | 1975                      | Cap. Forecast                 |
| SA0473 | Caroline Street    | VC       | 250                   | 116.10             | 2.97              | B              | 56,127  | 1940              | 1940            | 40          | 1980                      | Cap. Forecast                 |
| SA0475 | Caroline Street    | VC       | 250                   | 124.10             | 2.33              | B              | 58,502  | 1940              | 1940            | 40          | 1980                      | Cap. Forecast                 |
| SA0841 | Elgin Street       | VC       | 200                   | 127.40             | 1.61              | A              | 41,690  | 1940              | 1940            | 40          | 1980                      | Cap. Forecast                 |
| SA0843 | Elgin Street       | VC       | 200                   | 84.60              | 1.15              | A              | 36,235  | 1940              | 1940            | 40          | 1980                      | Cap. Forecast                 |
| SA0845 | Elgin Street       | VC       | 200                   | 24.40              | 3.00              | B              | 24,704  | 1940              | 1940            | 40          | 1980                      | Cap. Forecast                 |
| SA0863 | Princess Street    | VC       | 300                   | 2.10               | 1.81              | A              | 686   | 1940              | 1940            | 40          | 1980                      | Cap. Forecast                 |
| SA0335 | Harris Street      | VC       | 200                   | 122.40             | 2.79              | B              | 60,644  | 1944              | 1944            | 40          | 1984                      | Cap. Forecast                 |
| SA0337 | Harris Street      | VC       | 200                   | 47.50              | 2.13              | B              | 17,540  | 1944              | 1944            | 40          | 1984                      | Cap. Forecast                 |
| SA1133 | Harris Street      | VC       | 200                   | 11.28              | 2.73              | B              | 3,230   | 1944              | 1944            | 40          | 1984                      | Cap. Forecast                 |
| SA1621 | Charles Street     | VC       | 250                   | 45.40              | 2.00              | A              | 20,403  | 1944              | 1944            | 40          | 1984                      | Cap. Forecast                 |
| SA1807 | Hope Street N.     | VC       | 200                   | 38.10              | 3.00              | B              | 10,911  | 1944              | 1944            | 40          | 1984                      | Cap. Forecast                 |
| SA1827 | Harris Street      | VC       | 200                   | 30.00              | 3.23              | C              | 13,157  | 1944              | 1944            | 40          | 1984                      | Cap. Forecast                 |
| SA0005 | Hill Street        | VC       | 150                   | 56.40              | 1.80              | A              | 20,288  | 1945              | 1945            | 40          | 1985                      | Cap. Forecast                 |
| SA0011 | Hill Street        | VC       | 200                   | 64.60              | 0.97              | A              | 21,084  | 1945              | 1945            | 40          | 1985                      | Cap. Forecast                 |
| SA0469 | Martha Street      | CON      | 250                   | 38.10              | 3.25              | C              | 16,914  | 1912              | 1912            | 75          | 1987                      | Cap. Forecast                 |
| SA0201 | Victoria Street    | VC       | 200                   | 20.70              | 2.43              | B              | 9,865   | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0203 | Victoria Street    | VC       | 200                   | 61.00              | 2.16              | B              | 23,375  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0683 | Percival Street    | VC       | 250                   | 71.90              | 2.55              | B              | 27,254  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0703 | Percival Street    | VC       | 250                   | 67.10              | 2.48              | B              | 27,798  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0955 | Peter Street       | VC       | 250                   | 16.01              | 3.32              | C              | 5,089   | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0957 | Peter Street       | VC       | 250                   | 109.70             | 2.79              | B              | 40,447  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0959 | Peter Street       | VC       | 250                   | 130.00             | 2.69              | B              | 38,600  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0961 | Peter Street       | VC       | 200                   | 15.20              | 3.00              | B              | 4,353   | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0965 | Peter Street       | VC       | 250                   | 89.30              | 2.70              | B              | 30,452  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0967 | Peter Street       | VC       | 250                   | 199.00             | 3.59              | C              | 80,975  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA1095 | Peter Street       | VC       | 200                   | 47.20              | 2.55              | B              | 15,486  | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA1819 | Peter Street       | VC       | 200                   | 24.40              | 2.85              | B              | 8,956   | 1947              | 1947            | 40          | 1987                      | Cap. Forecast                 |
| SA0711 | Hope Street        | CON      | 200                   | 74.10              | 2.58              | B              | 29,134  | 1913              | 1913            | 75          | 1988                      | Cap. Forecast                 |
| SA0713 | Hope Street        | CON      | 200                   | 38.70              | 2.26              | B              | 12,044  | 1913              | 1913            | 75          | 1988                      | Cap. Forecast                 |
| SA0727 | Hope Street        | CON      | 250                   | 53.30              | 2.22              | B              | 18,321  | 1913              | 1913            | 75          | 1988                      | Cap. Forecast                 |
| SA0125 | Hagerman Street    | VC       | 200                   | 39.00              | 3.89              | C              | 19,860  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0127 | Hagerman Street    | VC       | 200                   | 82.30              | 3.67              | C              | 48,916  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0129 | Hagerman Street    | VC       | 200                   | 10.70              | 1.30              | A              | 2,840   | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |

**TABLE A-3  
MUNICIPALITY OF PORT HOPE  
Sewermain Inventory, 2009**

| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0481 | Bruton Lane        | VC       | 200                   | 75.00              | 1.67              | A              | 33,687  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0485 | Caroline Street    | VC       | 200                   | 63.10              | 2.41              | B              | 25,945  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0487 | Ontario Street     | VC       | 250                   | 105.50             | 3.37              | C              | 43,379  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0503 | Alfred Street      | VC       | 200                   | 88.10              | 2.80              | B              | 33,105  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0513 | Bruton Lane        | VC       | 200                   | 100.00             | 3.00              | B              | 44,387  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0515 | Bruton Lane        | VC       | 200                   | 77.00              | 3.00              | B              | 37,800  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0521 | Ontario Street     | VC       | 250                   | 72.50              | 3.68              | C              | 23,046  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0523 | Ontario Street     | VC       | 250                   | 73.50              | 4.22              | D              | 34,747  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0545 | Ontario Street     | VC       | 200                   | 79.20              | 4.17              | D              | 39,780  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0621 | Lavinia Street     | VC       | 200                   | 71.00              | 2.57              | B              | 30,176  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0623 | Lavinia Court      | VC       | 200                   | 41.00              | 2.41              | B              | 23,553  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0625 | Fraser Street      | VC       | 200                   | 104.20             | 2.26              | B              | 53,463  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0699 | Percival Court N.  | VC       | 200                   | 55.06              | 2.44              | B              | 31,516  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0701 | Percival Court S.  | VC       | 200                   | 39.30              | 2.41              | B              | 23,066  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0811 | King Street        | VC       | 150                   | 101.07             | 5.01              | E              | 53,931  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0813 | King Street        | VC       | 150                   | 108.30             | 2.23              | B              | 43,667  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1057 | Fraser Street      | AC       | 250                   | 100.80             | 2.18              | B              | 37,046  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1073 | Fraser Street      | AC       | 250                   | 52.80              | 2.34              | B              | 28,029  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1079 | Trefusis Street    | AC       | 250                   | 116.70             | 2.76              | B              | 49,211  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1083 | Trefusis Street    | AC       | 250                   | 61.00              | 2.75              | B              | 26,305  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1089 | Lavinia Street     | VC       | 200                   | 33.80              | 2.11              | B              | 21,491  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1101 | Trefusis Street    | AC       | 250                   | 61.00              | 2.56              | B              | 24,336  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1111 | Bruton Lane        | VC       | 200                   | 82.50              | 1.71              | A              | 31,740  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1603 | Victoria Street    | AC       | 250                   | 87.50              | 2.29              | B              | 39,362  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1605 | Victoria Street    | AC       | 250                   | 121.90             | 2.73              | B              | 40,772  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1607 | Victoria Street    | VC       | 200                   | 101.20             | 2.56              | B              | 38,825  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1615 | Arthur Street      | VC       | 200                   | 28.64              | 1.85              | A              | 11,539  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1617 | Arthur Street      | VC       | 200                   | 101.80             | 2.16              | B              | 56,713  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1619 | Arthur Street      | VC       | 200                   | 53.00              | 2.16              | B              | 23,052  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1625 | Bruton Lane        | VC       | 200                   | 104.20             | 1.54              | A              | 47,343  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1627 | Bruton Lane        | VC       | 200                   | 76.20              | 1.41              | A              | 34,005  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1785 | Easement           | VC       | 200                   | 44.20              | 2.77              | B              | 12,658  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1791 | Fraser Street      | VC       | 150                   | 15.80              | 1.97              | A              | 9,935   | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA1797 | Bruton Lane        | VC       | 200                   | 52.80              | 1.20              | A              | 23,857  | 1949              | 1949            | 40          | 1989                      | Cap. Forecast                 |
| SA0015 | Laneway            | VC       | 150                   | 36.90              | 1.71              | A              | 19,253  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0505 | Alfred Street      | VC       | 200                   | 45.80              | 2.94              | B              | 20,990  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0507 | Oxford Street      | VC       | 250                   | 52.00              | 2.77              | B              | 23,314  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0509 | Oxford Street      | VC       | 250                   | 35.00              | 3.14              | C              | 20,968  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0511 | Oxford Street      | VC       | 250                   | 40.00              | 4.58              | D              | 17,490  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0547 | Brunswick Avenue   | VC       | 200                   | 112.20             | 2.64              | B              | 55,754  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0549 | Alfred Street      | VC       | 200                   | 45.00              | 3.12              | C              | 19,736  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0551 | Orchard Street     | VC       | 200                   | 112.20             | 2.68              | B              | 55,754  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0561 | Alfred Street      | VC       | 200                   | 92.70              | 3.41              | C              | 40,301  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0563 | Alfred Street      | VC       | 200                   | 93.00              | 2.73              | B              | 30,571  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0571 | Clovelly Street    | VC       | 200                   | 108.80             | 1.89              | A              | 52,501  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0641 | DeBlaquire Street  | VC       | 200                   | 95.10              | 5.16              | E              | 39,119  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0749 | Young Street       | VC       | 200                   | 155.80             | 2.05              | B              | 66,272  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0751 | Young Street       | VC       | 200                   | 67.10              | 2.11              | B              | 21,185  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0779 | Easement           | VC       | 250                   | 66.80              | 1.74              | A              | 18,435  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0829 | Ward Street        | VC       | 225                   | 54.00              | 3.07              | C              | 22,783  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0883 | Francis Street     | VC       | 200                   | 89.30              | 1.93              | A              | 35,514  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0919 | Francis Street     | VC       | 200                   | 109.70             | 2.56              | B              | 45,196  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0943 | King Street        | VC       | 225                   | 25.00              | 2.19              | B              | 17,132  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0951 | Peter Street       | VC       | 200                   | 22.13              | 3.21              | C              | 6,801   | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0953 | Peter Street       | VC       | 250                   | 132.30             | 3.36              | C              | 44,024  | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA1085 | Easement           | VC       | 150                   | 19.80              | 1.58              | A              | 8,986   | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA1775 | Easement           | VC       | 200                   | 19.11              | 3.02              | C              | 7,842   | 1950              | 1950            | 40          | 1990                      | Cap. Forecast                 |
| SA0157 | Hector Street      | VC       | 150                   | 60.00              | 0.91              | A              | 29,080  | 1951              | 1951            | 40          | 1991                      | Cap. Forecast                 |
| SA1325 | Trafalgar Street   | VC       | 200                   | 111.56             | 2.44              | B              | 45,729  | 1951              | 1951            | 40          | 1991                      | Cap. Forecast                 |
| SA1327 | Trafalgar Street   | VC       | 200                   | 56.52              | 3.00              | B              | 24,060  | 1951              | 1951            | 40          | 1991                      | Cap. Forecast                 |
| SA0495 | Helm Street        | VC       | 250                   | 46.50              | 3.10              | C              | 14,781  | 1952              | 1952            | 80          | 2032                      | 610                           |
| SA0971 | Hope Street        | VC       | 250                   | 54.60              | 3.48              | C              | 17,356  | 1952              | 1952            | 80          | 2032                      | 716                           |
| SA0973 | Hope Street        | VC       | 250                   | 60.00              | 5.16              | E              | 21,587  | 1952              | 1952            | 80          | 2032                      | 890                           |
| SA0537 | Oxford Street      | VC       | 250                   | 66.40              | 5.12              | E              | 33,733  | 1953              | 1953            | 80          | 2033                      | 1,325                         |
| SA0541 | Oxford Street      | VC       | 250                   | 64.60              | 4.26              | D              | 27,794  | 1953              | 1953            | 80          | 2033                      | 1,092                         |
| SA0651 | Croft Street       | VC       | 200                   | 67.40              | 2.06              | B              | 27,176  | 1953              | 1953            | 80          | 2033                      | 1,067                         |
| SA1097 | Croft Street       | VC       | 200                   | 44.80              | 4.57              | D              | 16,676  | 1953              | 1953            | 80          | 2033                      | 655                           |
| SA0619 | Highland Drive     | AC       | 250                   | 118.60             | 2.61              | B              | 39,881  | 1954              | 1954            | 80          | 2034                      | 1,495                         |
| SA0653 | Elgin Street       | VC       | 200                   | 49.60              | 3.33              | C              | 29,024  | 1954              | 1954            | 80          | 2034                      | 1,088                         |

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Sewermain Inventory, 2009**

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|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0655 | Elgin Street       | VC       | 200                   | 40.00              | 3.64              | C              | 22,136  | 1954              | 1954            | 80          | 2034                      | 830                           |
| SA0657 | Elgin Street       | VC       | 200                   | 91.50              | 3.70              | C              | 41,901  | 1954              | 1954            | 80          | 2034                      | 1,570                         |
| SA0659 | Hope Street N.     | VC       | 200                   | 66.30              | 3.00              | B              | 22,924  | 1954              | 1954            | 80          | 2034                      | 859                           |
| SA0725 | Elgin Street       | VC       | 200                   | 50.75              | 2.80              | B              | 20,440  | 1954              | 1954            | 80          | 2034                      | 766                           |
| SA1113 | Hope Street        | VC       | 200                   | 63.70              | 2.43              | B              | 37,928  | 1954              | 1954            | 80          | 2034                      | 1,421                         |
| SA1115 | Hope Street        | VC       | 200                   | 61.00              | 2.00              | A              | 24,065  | 1954              | 1954            | 80          | 2034                      | 902                           |
| SA1609 | Highland Drive     | AC       | 250                   | 116.70             | 3.15              | C              | 33,718  | 1954              | 1954            | 80          | 2034                      | 1,264                         |
| SA1691 | Charles Street     | AC       | 300                   | 53.00              | 2.42              | B              | 20,684  | 1954              | 1954            | 80          | 2034                      | 775                           |
| SA0177 | Robertson Street   | PVC      | 200                   | 50.00              | 1.84              | A              | 10,922  | 1920              | 1920            | 80          | 2000                      | Cap. Forecast                 |
| SA0923 | Princess Street    | VC       | 250                   | 91.10              | 2.84              | B              | 44,766  | 1955              | 1955            | 80          | 2035                      | 1,604                         |
| SA0927 | Princess Street    | VC       | 250                   | 92.70              | 3.15              | C              | 51,121  | 1955              | 1955            | 80          | 2035                      | 1,831                         |
| SA0929 | Princess Street    | VC       | 250                   | 78.00              | 3.48              | C              | 36,606  | 1955              | 1955            | 80          | 2035                      | 1,311                         |
| SA1131 | Trefusis Street    | AC       | 250                   | 71.60              | 2.99              | B              | 19,323  | 1955              | 1955            | 80          | 2035                      | 692                           |
| SA1139 | Trefusis Street    | AC       | 250                   | 72.80              | 4.00              | C              | 24,971  | 1955              | 1955            | 80          | 2035                      | 894                           |
| SA1143 | Ralston Drive      | AC       | 250                   | 55.00              | 4.28              | D              | 19,098  | 1955              | 1955            | 80          | 2035                      | 684                           |
| SA1147 | Ralston Drive      | AC       | 250                   | 85.00              | 4.08              | D              | 30,755  | 1955              | 1955            | 80          | 2035                      | 1,102                         |
| SA1331 | Ralston Drive      | AC       | 250                   | 120.70             | 3.98              | C              | 41,993  | 1955              | 1955            | 80          | 2035                      | 1,504                         |
| SA1353 | Ralston Drive      | AC       | 250                   | 141.40             | 2.41              | B              | 44,523  | 1955              | 1955            | 80          | 2035                      | 1,595                         |
| SA1667 | Charles Street     | AC       | 300                   | 59.76              | 2.15              | B              | 22,820  | 1955              | 1955            | 80          | 2035                      | 817                           |
| SA1809 | Princess Street    | VC       | 150                   | 14.60              | 2.08              | B              | 7,966   | 1955              | 1955            | 80          | 2035                      | 285                           |
| SA0573 | Easement           | VC       | 200                   | 42.70              | 3.24              | C              | 13,123  | 1956              | 1956            | 80          | 2036                      | 450                           |
| SA0575 | Easement           | VC       | 200                   | 30.50              | 2.75              | B              | 10,703  | 1956              | 1956            | 80          | 2036                      | 367                           |
| SA0577 | Easement           | VC       | 200                   | 15.20              | 2.51              | B              | 10,259  | 1956              | 1956            | 80          | 2036                      | 352                           |
| SA0579 | Easement           | VC       | 150                   | 26.00              | 1.40              | A              | 6,630   | 1956              | 1956            | 80          | 2036                      | 227                           |
| SA0791 | McCaul Street      | VC       | 150                   | 44.80              | 2.80              | B              | 20,238  | 1956              | 1956            | 80          | 2036                      | 694                           |
| SA0969 | Shuter Street      | VC       | 250                   | 100.00             | 2.97              | B              | 35,598  | 1956              | 1956            | 80          | 2036                      | 1,221                         |
| SA0999 | Highway #2         | VC       | 300                   | 75.00              | 1.89              | A              | 28,426  | 1956              | 1956            | 80          | 2036                      | 975                           |
| SA1001 | Highway #2         | VC       | 300                   | 82.60              | 1.94              | A              | 26,970  | 1956              | 1956            | 80          | 2036                      | 925                           |
| SA1003 | Highway #2         | VC       | 300                   | 89.90              | 2.47              | B              | 31,238  | 1956              | 1956            | 80          | 2036                      | 1,071                         |
| SA1005 | Highway #2         | VC       | 300                   | 98.80              | 3.08              | C              | 37,855  | 1956              | 1956            | 80          | 2036                      | 1,298                         |
| SA1007 | Highway #2         | VC       | 300                   | 93.90              | 3.23              | C              | 34,106  | 1956              | 1956            | 80          | 2036                      | 1,170                         |
| SA1009 | Highway #2         | VC       | 300                   | 18.87              | 3.91              | C              | 6,854   | 1956              | 1956            | 80          | 2036                      | 235                           |
| SA1015 | Highway #2         | VC       | 300                   | 96.00              | 3.86              | C              | 34,869  | 1956              | 1956            | 80          | 2036                      | 1,196                         |
| SA1017 | Highway #2         | VC       | 300                   | 109.00             | 3.28              | C              | 41,559  | 1956              | 1956            | 80          | 2036                      | 1,425                         |
| SA1027 | Hope Street        | VC       | 450                   | 104.50             | 2.35              | B              | 46,172  | 1956              | 1956            | 80          | 2036                      | 1,583                         |
| SA1485 | Freeman Drive      | AC       | 250                   | 120.70             | 4.64              | D              | 40,732  | 1956              | 1956            | 80          | 2036                      | 1,397                         |
| SA0525 | Ontario Street     | AC       | 250                   | 96.90              | 4.65              | D              | 35,748  | 1957              | 1957            | 80          | 2037                      | 1,175                         |
| SA0533 | Ontario Street     | AC       | 250                   | 55.40              | 2.22              | B              | 18,888  | 1957              | 1957            | 80          | 2037                      | 621                           |
| SA0589 | Jocelyn Street     | AC       | 200                   | 82.30              | 2.61              | B              | 29,301  | 1957              | 1957            | 80          | 2037                      | 963                           |
| SA0609 | Jocelyn Street     | AC       | 200                   | 80.80              | 3.01              | C              | 38,324  | 1957              | 1957            | 80          | 2037                      | 1,260                         |
| SA1013 | Easement           | VC       | 375                   | 98.50              | 4.28              | D              | 45,922  | 1957              | 1957            | 80          | 2037                      | 1,510                         |
| SA1019 | Easement           | VC       | 375                   | 97.20              | 3.83              | C              | 43,452  | 1957              | 1957            | 80          | 2037                      | 1,429                         |
| SA1021 | Easement           | VC       | 375                   | 48.01              | 2.99              | B              | 20,627  | 1957              | 1957            | 80          | 2037                      | 678                           |
| SA1023 | Easement           | VC       | 375                   | 19.87              | 3.00              | B              | 8,537   | 1957              | 1957            | 80          | 2037                      | 281                           |
| SA1153 | Victoria Street    | AC       | 250                   | 100.40             | 2.91              | B              | 26,915  | 1957              | 1957            | 80          | 2037                      | 885                           |
| SA1159 | Victoria Street    | AC       | 250                   | 104.20             | 4.00              | C              | 29,233  | 1957              | 1957            | 80          | 2037                      | 961                           |
| SA1163 | Moore Drive        | AC       | 200                   | 81.12              | 4.29              | D              | 26,210  | 1957              | 1957            | 80          | 2037                      | 862                           |
| SA1167 | Moore Drive        | AC       | 200                   | 40.06              | 3.59              | C              | 14,675  | 1957              | 1957            | 80          | 2037                      | 483                           |
| SA1189 | Moore Drive        | AC       | 200                   | 86.70              | 3.05              | C              | 26,220  | 1957              | 1957            | 80          | 2037                      | 862                           |
| SA1207 | Moore Drive        | AC       | 200                   | 60.00              | 2.57              | B              | 18,084  | 1957              | 1957            | 80          | 2037                      | 595                           |
| SA1227 | Moore Drive        | AC       | 200                   | 24.70              | 2.38              | B              | 10,368  | 1957              | 1957            | 80          | 2037                      | 341                           |
| SA1249 | Moore Drive        | AC       | 200                   | 72.50              | 2.44              | B              | 24,781  | 1957              | 1957            | 80          | 2037                      | 815                           |
| SA1287 | Gregory Street     | AC       | 200                   | 61.00              | 2.94              | B              | 24,345  | 1957              | 1957            | 80          | 2037                      | 801                           |
| SA1309 | Gregory Street     | AC       | 200                   | 68.30              | 2.63              | B              | 21,262  | 1957              | 1957            | 80          | 2037                      | 699                           |
| SA1321 | Gregory Street     | AC       | 200                   | 20.40              | 2.29              | B              | 4,088   | 1957              | 1957            | 80          | 2037                      | 134                           |
| SA1509 | Freeman Drive      | AC       | 250                   | 108.20             | 3.25              | C              | 31,637  | 1957              | 1957            | 80          | 2037                      | 1,040                         |
| SA1535 | Freeman Drive      | AC       | 250                   | 65.00              | 3.93              | C              | 17,485  | 1957              | 1957            | 80          | 2037                      | 575                           |
| SA1557 | Freeman Drive      | AC       | 250                   | 79.80              | 3.23              | C              | 23,807  | 1957              | 1957            | 80          | 2037                      | 783                           |
| SA0073 | Walton Street      | VC       | 250                   | 41.80              | 1.83              | A              | 25,685  | 1958              | 1958            | 80          | 2038                      | 811                           |
| SA0199 | Freeman Drive      | AC       | 250                   | 45.40              | 2.05              | B              | 17,006  | 1958              | 1958            | 80          | 2038                      | 537                           |
| SA0205 | Lakeshore Road     | VC       | 200                   | 98.40              | 4.18              | D              | 40,178  | 1958              | 1958            | 80          | 2038                      | 1,268                         |
| SA0207 | Lakeshore Road     | VC       | 200                   | 100.00             | 2.51              | B              | 40,450  | 1958              | 1958            | 80          | 2038                      | 1,277                         |
| SA0315 | Sherbourne Street  | VC       | 200                   | 153.30             | 3.00              | B              | 67,525  | 1958              | 1958            | 80          | 2038                      | 2,132                         |
| SA0775 | Easement           | VC       | 200                   | 56.70              | 2.05              | B              | 31,986  | 1958              | 1958            | 80          | 2038                      | 1,010                         |
| SA0777 | Easement           | VC       | 200                   | 38.10              | 1.66              | A              | 12,081  | 1958              | 1958            | 80          | 2038                      | 381                           |
| SA1087 | Heneage Street     | AC       | 250                   | 73.80              | 2.54              | B              | 24,420  | 1958              | 1958            | 80          | 2038                      | 771                           |
| SA1375 | Heneage Street     | AC       | 250                   | 112.20             | 3.65              | C              | 31,012  | 1958              | 1958            | 80          | 2038                      | 979                           |
| SA1397 | Heneage Street     | AC       | 250                   | 61.60              | 3.78              | C              | 18,244  | 1958              | 1958            | 80          | 2038                      | 576                           |
| SA1419 | Heneage Street     | AC       | 250                   | 60.40              | 3.41              | C              | 19,492  | 1958              | 1958            | 80          | 2038                      | 615                           |

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| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA1441 | Heneage Street     | AC       | 250                   | 74.00              | 3.03              | C              | 25,547  | 1958              | 1958            | 80          | 2038                      | 807                           |
| SA1583 | Freeman Drive      | AC       | 250                   | 45.40              | 2.38              | B              | 9,430   | 1958              | 1958            | 80          | 2038                      | 298                           |
| SA0531 | Ontario Street     | AC       | 250                   | 40.00              | 3.17              | C              | 19,431  | 1959              | 1959            | 80          | 2039                      | 590                           |
| SA1103 | Percival Street    | VC       | 200                   | 71.60              | 2.50              | B              | 30,348  | 1960              | 1960            | 80          | 2040                      | 886                           |
| SA1105 | Percival Street    | VC       | 200                   | 75.60              | 2.64              | B              | 29,525  | 1960              | 1960            | 80          | 2040                      | 862                           |
| SA1107 | Percival Street    | VC       | 200                   | 75.00              | 2.68              | B              | 29,353  | 1960              | 1960            | 80          | 2040                      | 857                           |
| SA1109 | Percival Street    | VC       | 200                   | 40.28              | 2.59              | B              | 13,504  | 1960              | 1960            | 80          | 2040                      | 394                           |
| SA0601 | Victoria Street S. | VC       | 200                   | 49.40              | 2.40              | B              | 31,864  | 1962              | 1962            | 80          | 2042                      | 865                           |
| SA0209 | South Street       | VC       | 150                   | 93.00              | 1.43              | A              | 41,876  | 1963              | 1963            | 80          | 2043                      | 1,098                         |
| SA0215 | Brown Street       | VC       | 150                   | 35.00              | 3.00              | B              | 11,627  | 1963              | 1963            | 80          | 2043                      | 305                           |
| SA0217 | Brown Street       | VC       | 150                   | 35.00              | 3.00              | B              | 19,501  | 1963              | 1963            | 80          | 2043                      | 511                           |
| SA1029 | Lake Street        | VC       | 450                   | 83.20              | 3.33              | C              | 38,356  | 1956              | 1963            | 80          | 2043                      | 1,005                         |
| SA1035 | Lake Street        | VC       | 450                   | 82.00              | 5.23              | E              | 40,667  | 1956              | 1963            | 80          | 2043                      | 1,066                         |
| SA1037 | Lake Street        | VC       | 450                   | 76.50              | 5.52              | E              | 41,876  | 1956              | 1963            | 80          | 2043                      | 1,098                         |
| SA0355 | Brown Street       | VC       | 150                   | 74.00              | 0.70              | A              | 30,682  | 1963              | 1963            | 80          | 2043                      | 804                           |
| SA1039 | Lake Street        | VC       | 450                   | 79.90              | 4.80              | D              | 38,235  | 1956              | 1963            | 80          | 2043                      | 1,002                         |
| SA0381 | Brown Street       | VC       | 200                   | 76.00              | 3.00              | B              | 39,482  | 1963              | 1963            | 80          | 2043                      | 1,035                         |
| SA0383 | Brown Street       | VC       | 200                   | 76.00              | 2.13              | B              | 39,482  | 1963              | 1963            | 80          | 2043                      | 1,035                         |
| SA1041 | Lake Street        | VC       | 450                   | 82.30              | 3.77              | C              | 37,941  | 1956              | 1963            | 80          | 2043                      | 994                           |
| SA1043 | Lake Street        | VC       | 450                   | 77.40              | 2.86              | B              | 36,166  | 1956              | 1963            | 80          | 2043                      | 948                           |
| SA1045 | Lake Street        | VC       | 450                   | 82.30              | 2.15              | B              | 36,363  | 1956              | 1963            | 80          | 2043                      | 953                           |
| SA0535 | Ontario Street     | AC       | 200                   | 20.00              | 3.00              | B              | 5,207   | 1963              | 1963            | 80          | 2043                      | 136                           |
| SA1231 | Brown Street       | VC       | 200                   | 24.00              | 3.00              | B              | 12,779  | 1963              | 1963            | 80          | 2043                      | 335                           |
| SA1235 | Brown Street       | VC       | 200                   | 21.30              | 3.00              | B              | 13,974  | 1963              | 1963            | 80          | 2043                      | 366                           |
| SA1333 | Philips Road       | VC       | 200                   | 74.08              | 3.00              | B              | 23,184  | 1963              | 1963            | 80          | 2043                      | 608                           |
| SA0293 | Pine Street        | VC       | 200                   | 58.00              | 2.94              | B              | 22,516  | 1964              | 1964            | 80          | 2044                      | 570                           |
| SA0613 | Queen Street       | VC       | 375                   | 14.00              | 2.26              | B              | 8,527   | 1964              | 1964            | 80          | 2044                      | 216                           |
| SA0617 | Queen Street       | VC       | 375                   | 106.35             | 3.00              | B              | 79,918  | 1964              | 1964            | 80          | 2044                      | 2,024                         |
| SA1613 | Queen Street       | VC       | 375                   | 84.08              | 3.00              | B              | 79,755  | 1964              | 1964            | 80          | 2044                      | 2,020                         |
| SA0759 | Hope Street N.     | CON      | 200                   | 80.80              | 3.00              | B              | 28,910  | 1930              | 1930            | 80          | 2010                      | Cap. Forecast                 |
| SA2011 | Easement           | CON      | 200                   | 182.00             | 3.00              | B              | 36,471  | 1930              | 1930            | 80          | 2010                      | Cap. Forecast                 |
| SA0529 | Rosevear Boulevard | AC       | 250                   | 121.60             | 6.16              | E              | 57,483  | 1964              | 1965            | 80          | 2045                      | 1,408                         |
| SA0603 | Victoria Street    | VC       | 200                   | 93.00              | 3.00              | B              | 32,621  | 1965              | 1965            | 80          | 2045                      | 799                           |
| SA1171 | Trefusis Street    | VC       | 250                   | 60.10              | 3.00              | B              | 25,856  | 1965              | 1965            | 80          | 2045                      | 633                           |
| SA1173 | Trefusis Street    | VC       | 250                   | 74.00              | 3.00              | B              | 22,972  | 1965              | 1965            | 80          | 2045                      | 563                           |
| SA1175 | Trefusis Street    | VC       | 250                   | 60.00              | 3.00              | B              | 19,773  | 1965              | 1965            | 80          | 2045                      | 484                           |
| SA1177 | Trefusis Street    | VC       | 250                   | 59.70              | 4.26              | D              | 20,115  | 1965              | 1965            | 80          | 2045                      | 493                           |
| SA1179 | Southby Place      | VC       | 200                   | 45.70              | 3.00              | B              | 17,649  | 1965              | 1965            | 80          | 2045                      | 432                           |
| SA1463 | Keith Place        | AC       | 200                   | 47.20              | 2.61              | B              | 17,034  | 1958              | 1966            | 80          | 2046                      | 404                           |
| SA1169 | Silver Crescent    | AC       | 200                   | 76.20              | 3.00              | B              | 25,875  | 1966              | 1966            | 80          | 2046                      | 614                           |
| SA1181 | Freeman Drive      | VC       | 200                   | 48.80              | 3.00              | B              | 18,332  | 1966              | 1966            | 80          | 2046                      | 435                           |
| SA1183 | Freeman Drive      | VC       | 200                   | 48.80              | 3.00              | B              | 16,817  | 1966              | 1966            | 80          | 2046                      | 399                           |
| SA1185 | Freeman Drive      | VC       | 200                   | 48.80              | 3.00              | B              | 13,787  | 1966              | 1966            | 80          | 2046                      | 327                           |
| SA1187 | Freeman Drive      | VC       | 200                   | 51.50              | 3.00              | B              | 14,382  | 1966              | 1966            | 80          | 2046                      | 341                           |
| SA1191 | Scriven Boulevard  | VC       | 200                   | 78.30              | 3.00              | B              | 30,896  | 1966              | 1966            | 80          | 2046                      | 733                           |
| SA1193 | Scriven Boulevard  | VC       | 200                   | 78.30              | 3.00              | B              | 24,835  | 1966              | 1966            | 80          | 2046                      | 589                           |
| SA1195 | Scriven Boulevard  | VC       | 200                   | 78.00              | 3.00              | B              | 21,739  | 1966              | 1966            | 80          | 2046                      | 515                           |
| SA0691 | Pidgeon Hill Road  | AC       | 200                   | 105.50             | 3.00              | B              | 37,309  | 1967              | 1967            | 80          | 2047                      | 857                           |
| SA0693 | Pidgeon Hill Road  | AC       | 200                   | 105.50             | 3.00              | B              | 56,994  | 1967              | 1967            | 80          | 2047                      | 1,309                         |
| SA0695 | Pidgeon Hill Road  | AC       | 200                   | 105.50             | 3.00              | B              | 47,152  | 1967              | 1967            | 80          | 2047                      | 1,083                         |
| SA0697 | Pidgeon Hill Road  | AC       | 200                   | 60.40              | 1.26              | A              | 20,346  | 1967              | 1967            | 80          | 2047                      | 467                           |
| SA0539 | Wellington Street  | AC       | 200                   | 71.10              | 3.00              | B              | 20,479  | 1968              | 1968            | 80          | 2048                      | 456                           |
| SA0639 | DeBlaquire Street  | VC       | 200                   | 92.40              | 4.27              | D              | 36,240  | 1959              | 1968            | 80          | 2048                      | 807                           |
| SA0593 | Easement           | AC       | 200                   | 72.50              | 3.00              | B              | 24,781  | 1968              | 1968            | 80          | 2048                      | 552                           |
| SA1203 | Pine Street        | VC       | 200                   | 54.90              | 1.66              | A              | 16,541  | 1968              | 1968            | 80          | 2048                      | 368                           |
| SA1205 | Wellington Street  | AC       | 200                   | 68.60              | 3.00              | B              | 19,829  | 1968              | 1968            | 80          | 2048                      | 442                           |
| SA1209 | Wellington Street  | AC       | 200                   | 60.00              | 3.00              | B              | 21,527  | 1968              | 1968            | 80          | 2048                      | 479                           |
| SA1215 | Peter Street       | VC       | 250                   | 68.60              | 3.37              | C              | 21,807  | 1968              | 1968            | 80          | 2048                      | 486                           |
| SA1217 | Peter Street       | VC       | 250                   | 27.70              | 3.00              | B              | 8,225   | 1968              | 1968            | 80          | 2048                      | 183                           |
| SA1219 | Peter Street       | VC       | 250                   | 44.30              | 3.00              | B              | 13,154  | 1968              | 1968            | 80          | 2048                      | 293                           |
| SA1221 | Nelson Street      | VC       | 200                   | 70.00              | 3.00              | B              | 22,015  | 1968              | 1968            | 80          | 2048                      | 490                           |
| SA1839 | Wellington Street  | AC       | 200                   | 60.00              | 3.00              | B              | 21,527  | 1968              | 1968            | 80          | 2048                      | 479                           |
| SA0057 | Ontario Street     | VC       | 525                   | 100.00             | 2.55              | B              | 77,601  | 1969              | 1969            | 80          | 2049                      | 1,676                         |
| SA0089 | Maitland Street    | VC       | 525                   | 22.82              | 2.20              | B              | 17,466  | 1969              | 1969            | 80          | 2049                      | 377                           |
| SA0121 | Maitland Street    | VC       | 525                   | 41.11              | 2.17              | B              | 35,590  | 1969              | 1969            | 80          | 2049                      | 769                           |
| SA0289 | Ross Street        | VC       | 100                   | 100.00             | 3.00              | B              | 41,377  | 1969              | 1969            | 80          | 2049                      | 894                           |
| SA0497 | Helm Street        | VC       | 250                   | 51.80              | 3.00              | B              | 29,160  | 1969              | 1969            | 80          | 2049                      | 630                           |
| SA0587 | Cavan Street       | VC       | 450                   | 76.20              | 3.00              | B              | 57,039  | 1969              | 1969            | 80          | 2049                      | 1,232                         |
| SA0591 | Cavan Street       | VC       | 450                   | 46.30              | 3.00              | B              | 34,657  | 1969              | 1969            | 80          | 2049                      | 749                           |

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|--------|---------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0595 | Cavan Street        | VC       | 525                   | 75.60              | 3.00              | B              | 61,280  | 1969              | 1969            | 80          | 2049                      | 1,324                         |
| SA0597 | Cavan Street        | VC       | 525                   | 91.40              | 3.00              | B              | 74,087  | 1969              | 1969            | 80          | 2049                      | 1,600                         |
| SA0599 | Cavan Street        | VC       | 525                   | 25.00              | 1.80              | A              | 14,113  | 1969              | 1969            | 80          | 2049                      | 305                           |
| SA0987 | Cavan Street        | VC       | 300                   | 85.00              | 3.00              | B              | 57,786  | 1969              | 1969            | 80          | 2049                      | 1,248                         |
| SA1197 | Scriven Boulevard   | AC       | 250                   | 61.00              | 3.00              | B              | 15,701  | 1969              | 1969            | 80          | 2049                      | 339                           |
| SA1239 | Cavan Street        | VC       | 250                   | 96.30              | 3.00              | B              | 58,409  | 1969              | 1969            | 80          | 2049                      | 1,262                         |
| SA1241 | Cavan Street        | VC       | 250                   | 76.20              | 3.00              | B              | 49,419  | 1969              | 1969            | 80          | 2049                      | 1,068                         |
| SA1243 | Cavan Street        | VC       | 250                   | 74.70              | 3.00              | B              | 46,633  | 1969              | 1969            | 80          | 2049                      | 1,007                         |
| SA1245 | Cavan Street        | VC       | 300                   | 76.20              | 3.00              | B              | 46,510  | 1969              | 1969            | 80          | 2049                      | 1,005                         |
| SA1247 | Cavan Street        | VC       | 300                   | 76.20              | 3.00              | B              | 48,478  | 1969              | 1969            | 80          | 2049                      | 1,047                         |
| SA1251 | Cavan Street        | VC       | 300                   | 100.00             | 3.00              | B              | 63,005  | 1969              | 1969            | 80          | 2049                      | 1,361                         |
| SA1253 | Cavan Street        | VC       | 375                   | 91.50              | 3.00              | B              | 71,277  | 1969              | 1969            | 80          | 2049                      | 1,540                         |
| SA1255 | Cavan Street        | VC       | 375                   | 99.10              | 3.00              | B              | 74,738  | 1969              | 1969            | 80          | 2049                      | 1,615                         |
| SA1257 | Cavan Street        | VC       | 375                   | 99.10              | 3.00              | B              | 70,801  | 1969              | 1969            | 80          | 2049                      | 1,529                         |
| SA1259 | Cavan Street        | VC       | 375                   | 99.10              | 3.00              | B              | 80,643  | 1969              | 1969            | 80          | 2049                      | 1,742                         |
| SA1261 | Cavan Street        | VC       | 375                   | 91.50              | 3.00              | B              | 71,277  | 1969              | 1969            | 80          | 2049                      | 1,540                         |
| SA1263 | Cavan Street        | VC       | 375                   | 91.50              | 3.00              | B              | 69,308  | 1969              | 1969            | 80          | 2049                      | 1,497                         |
| SA1265 | Cavan Street        | VC       | 450                   | 77.10              | 3.00              | B              | 57,712  | 1969              | 1969            | 80          | 2049                      | 1,247                         |
| SA1267 | Cavan Street        | VC       | 450                   | 74.70              | 3.00              | B              | 55,916  | 1969              | 1969            | 80          | 2049                      | 1,208                         |
| SA1559 | Scriven Boulevard   | AC       | 250                   | 51.20              | 3.00              | B              | 15,181  | 1969              | 1969            | 80          | 2049                      | 328                           |
| SA0423 | Mill Street         | AC       | 350                   | 130.00             | 1.78              | A              | 61,151  | 1970              | 1970            | 80          | 2050                      | 1,282                         |
| SA0439 | Mill Street         | AC       | 350                   | 69.80              | 3.01              | C              | 42,146  | 1970              | 1970            | 80          | 2050                      | 884                           |
| SA0441 | Mill Street         | VC       | 250                   | 117.20             | 3.57              | C              | 37,256  | 1970              | 1970            | 80          | 2050                      | 781                           |
| SA0443 | Mill Street         | VC       | 250                   | 84.30              | 2.35              | B              | 42,747  | 1970              | 1970            | 80          | 2050                      | 896                           |
| SA0451 | Mill Street         | VC       | 250                   | 31.50              | 1.98              | A              | 8,693   | 1970              | 1970            | 80          | 2050                      | 182                           |
| SA0665 | Ontario Street      | VC       | 200                   | 58.04              | 3.82              | C              | 21,775  | 1970              | 1970            | 80          | 2050                      | 457                           |
| SA0085 | Ontario Street      | VC       | 200                   | 25.00              | 2.41              | B              | 17,184  | 1972              | 1972            | 80          | 2052                      | 340                           |
| SA1769 | Mailland Street     | VC       | 375                   | 10.70              | 2.60              | B              | 7,035   | 1972              | 1972            | 80          | 2052                      | 139                           |
| SA1803 | Ontario Street      | VC       | 200                   | 15.00              | 2.27              | B              | 8,490   | 1972              | 1972            | 80          | 2052                      | 168                           |
| SA0185 | Spicer Street       | AC       | 250                   | 49.70              | 3.00              | B              | 13,354  | 1973              | 1973            | 80          | 2053                      | 257                           |
| SA1829 | Easement            | AC       | 200                   | 75.00              | 3.00              | B              | 25,432  | 1973              | 1973            | 80          | 2053                      | 490                           |
| SA1831 | Victoria Street N.  | AC       | 250                   | 76.20              | 3.00              | B              | 24,501  | 1973              | 1973            | 80          | 2053                      | 472                           |
| SA1833 | Victoria Street N.  | AC       | 250                   | 76.20              | 3.00              | B              | 28,438  | 1973              | 1973            | 80          | 2053                      | 547                           |
| SA1835 | Victoria Street N.  | AC       | 250                   | 76.20              | 3.00              | B              | 32,375  | 1973              | 1973            | 80          | 2053                      | 623                           |
| SA0471 | Martha Street       | CON      | 250                   | 92.70              | 2.76              | B              | 30,923  | 1940              | 1940            | 80          | 2020                      | Cap. Forecast                 |
| SA0483 | Caroline Street     | CON      | 200                   | 122.50             | 1.83              | A              | 61,055  | 1940              | 1940            | 80          | 2020                      | Cap. Forecast                 |
| SA0133 | Pine Street         | VC       | 200                   | 112.09             | 3.00              | B              | 41,943  | 1975              | 1975            | 80          | 2055                      | 765                           |
| SA0425 | Walton Street       | VC       | 200                   | 23.99              | 1.51              | A              | 8,336   | 1975              | 1975            | 80          | 2055                      | 152                           |
| SA0555 | Centennial Drive    | AC       | 250                   | 53.30              | 3.00              | B              | 15,617  | 1970              | 1975            | 80          | 2055                      | 285                           |
| SA0645 | Centennial Drive    | AC       | 250                   | 109.10             | 3.00              | B              | 33,268  | 1970              | 1975            | 80          | 2055                      | 607                           |
| SA0707 | Centennial Drive    | AC       | 250                   | 108.10             | 3.00              | B              | 34,575  | 1970              | 1975            | 80          | 2055                      | 630                           |
| SA0741 | Centennial Drive    | AC       | 250                   | 108.50             | 3.00              | B              | 34,658  | 1970              | 1975            | 80          | 2055                      | 632                           |
| SA0783 | Centennial Drive    | AC       | 250                   | 42.40              | 3.00              | B              | 14,868  | 1970              | 1975            | 80          | 2055                      | 271                           |
| SA0825 | Centennial Drive    | AC       | 250                   | 43.30              | 3.00              | B              | 13,540  | 1970              | 1975            | 80          | 2055                      | 247                           |
| SA0861 | Centennial Drive    | AC       | 250                   | 45.10              | 3.00              | B              | 13,913  | 1970              | 1975            | 80          | 2055                      | 254                           |
| SA0899 | Centennial Drive    | AC       | 250                   | 33.20              | 3.00              | B              | 11,442  | 1970              | 1975            | 80          | 2055                      | 209                           |
| SA0933 | Centennial Drive    | AC       | 250                   | 53.00              | 3.00              | B              | 17,070  | 1970              | 1975            | 80          | 2055                      | 311                           |
| SA0963 | Centennial Drive    | AC       | 250                   | 23.80              | 3.00              | B              | 4,944   | 1970              | 1975            | 80          | 2055                      | 90                            |
| SA1031 | Crossley Drive      | AC       | 250                   | 89.00              | 3.00              | B              | 27,578  | 1970              | 1975            | 80          | 2055                      | 503                           |
| SA1055 | Crossley Drive      | AC       | 250                   | 89.30              | 3.00              | B              | 33,701  | 1970              | 1975            | 80          | 2055                      | 614                           |
| SA1065 | Crossley Drive      | AC       | 250                   | 27.70              | 3.00              | B              | 13,329  | 1970              | 1975            | 80          | 2055                      | 243                           |
| SA1067 | Crossley Drive      | AC       | 250                   | 86.90              | 3.00              | B              | 34,717  | 1970              | 1975            | 80          | 2055                      | 633                           |
| SA1075 | Crossley Drive      | AC       | 250                   | 110.60             | 3.00              | B              | 45,701  | 1970              | 1975            | 80          | 2055                      | 833                           |
| SA1077 | Street Andrews Road | AC       | 250                   | 86.60              | 3.00              | B              | 28,594  | 1970              | 1975            | 80          | 2055                      | 521                           |
| SA1081 | Crossley Drive      | AC       | 250                   | 110.60             | 3.00              | B              | 44,185  | 1970              | 1975            | 80          | 2055                      | 806                           |
| SA1099 | Crossley Drive      | AC       | 250                   | 83.50              | 3.00              | B              | 37,041  | 1970              | 1975            | 80          | 2055                      | 675                           |
| SA1129 | Crossley Drive      | AC       | 250                   | 30.80              | 3.00              | B              | 10,943  | 1970              | 1975            | 80          | 2055                      | 200                           |
| SA1137 | Crossley Drive      | AC       | 250                   | 43.90              | 3.00              | B              | 18,210  | 1970              | 1975            | 80          | 2055                      | 332                           |
| SA1145 | Crossley Drive      | AC       | 250                   | 43.60              | 3.00              | B              | 12,087  | 1970              | 1975            | 80          | 2055                      | 220                           |
| SA1149 | Calgary Street      | AC       | 250                   | 61.30              | 3.00              | B              | 17,279  | 1970              | 1975            | 80          | 2055                      | 315                           |
| SA1151 | Calgary Street      | AC       | 250                   | 62.20              | 3.00              | B              | 18,981  | 1970              | 1975            | 80          | 2055                      | 346                           |
| SA1155 | Campbell Street     | AC       | 250                   | 61.00              | 3.00              | B              | 21,762  | 1970              | 1975            | 80          | 2055                      | 397                           |
| SA1157 | Campbell Street     | AC       | 250                   | 86.90              | 3.00              | B              | 24,111  | 1970              | 1975            | 80          | 2055                      | 440                           |
| SA1161 | Street Andrews Road | AC       | 250                   | 86.60              | 3.00              | B              | 27,079  | 1970              | 1975            | 80          | 2055                      | 494                           |
| SA1513 | Easement            | VC       | 525                   | 52.40              | 3.00              | B              | 30,044  | 1975              | 1975            | 80          | 2055                      | 548                           |
| SA1515 | Easement            | VC       | 525                   | 69.80              | 3.00              | B              | 39,529  | 1975              | 1975            | 80          | 2055                      | 721                           |
| SA1517 | Easement            | VC       | 525                   | 61.00              | 3.00              | B              | 22,629  | 1975              | 1975            | 80          | 2055                      | 413                           |
| SA1519 | Easement            | VC       | 525                   | 24.70              | 3.00              | B              | 9,163   | 1975              | 1975            | 80          | 2055                      | 167                           |
| SA1521 | Easement            | VC       | 525                   | 41.60              | 3.00              | B              | 20,050  | 1975              | 1975            | 80          | 2055                      | 366                           |

**TABLE A-3  
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| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA1525 | Ward Street        | VC       | 200                   | 42.00              | 3.00              | B              | 21,871  | 1975              | 1975            | 80          | 2055                      | 399                           |
| SA1531 | Easement           | VC       | 525                   | 20.90              | 3.00              | B              | 10,073  | 1975              | 1975            | 80          | 2055                      | 184                           |
| SA1533 | Easement           | VC       | 525                   | 68.30              | 3.00              | B              | 32,918  | 1975              | 1975            | 80          | 2055                      | 600                           |
| SA1537 | Easement           | VC       | 525                   | 65.20              | 3.00              | B              | 35,361  | 1975              | 1975            | 80          | 2055                      | 645                           |
| SA1539 | Easement           | VC       | 525                   | 41.50              | 3.00              | B              | 20,002  | 1975              | 1975            | 80          | 2055                      | 365                           |
| SA1541 | Easement           | VC       | 525                   | 41.50              | 3.00              | B              | 20,002  | 1975              | 1975            | 80          | 2055                      | 365                           |
| SA1543 | Easement           | AC       | 525                   | 90.30              | 3.00              | B              | 39,565  | 1975              | 1975            | 80          | 2055                      | 721                           |
| SA1545 | Easement           | AC       | 525                   | 90.50              | 3.00              | B              | 39,653  | 1975              | 1975            | 80          | 2055                      | 723                           |
| SA1547 | Easement           | AC       | 525                   | 92.40              | 3.00              | B              | 40,485  | 1975              | 1975            | 80          | 2055                      | 738                           |
| SA1549 | Easement           | AC       | 525                   | 91.90              | 3.00              | B              | 40,266  | 1975              | 1975            | 80          | 2055                      | 734                           |
| SA1551 | Easement           | AC       | 525                   | 91.90              | 3.00              | B              | 44,203  | 1975              | 1975            | 80          | 2055                      | 806                           |
| SA0013 | Centennial Drive   | AC       | 250                   | 15.94              | 3.00              | B              | 4,826   | 1973              | 1977            | 80          | 2057                      | 84                            |
| SA0055 | Centennial Drive   | AC       | 250                   | 31.40              | 3.00              | B              | 8,037   | 1973              | 1977            | 80          | 2057                      | 139                           |
| SA0061 | Centennial Drive   | AC       | 250                   | 53.40              | 3.00              | B              | 20,183  | 1973              | 1977            | 80          | 2057                      | 349                           |
| SA0087 | Centennial Drive   | AC       | 250                   | 40.50              | 3.00              | B              | 12,958  | 1973              | 1977            | 80          | 2057                      | 224                           |
| SA0119 | Centennial Drive   | AC       | 250                   | 43.00              | 3.00              | B              | 13,477  | 1973              | 1977            | 80          | 2057                      | 233                           |
| SA0153 | Centennial Drive   | AC       | 250                   | 66.40              | 3.00              | B              | 19,853  | 1973              | 1977            | 80          | 2057                      | 344                           |
| SA0245 | Centennial Drive   | AC       | 250                   | 70.10              | 3.00              | B              | 26,682  | 1973              | 1977            | 80          | 2057                      | 462                           |
| SA0247 | Centennial Drive   | AC       | 250                   | 61.00              | 3.00              | B              | 20,246  | 1973              | 1977            | 80          | 2057                      | 350                           |
| SA0283 | Payne Crescent     | AC       | 250                   | 102.00             | 3.00              | B              | 31,793  | 1973              | 1977            | 80          | 2057                      | 550                           |
| SA0325 | Payne Crescent     | AC       | 250                   | 101.20             | 3.00              | B              | 31,627  | 1973              | 1977            | 80          | 2057                      | 547                           |
| SA0349 | Diane Place        | AC       | 250                   | 82.30              | 3.00              | B              | 32,247  | 1973              | 1977            | 80          | 2057                      | 558                           |
| SA0379 | Payne Crescent     | AC       | 250                   | 47.90              | 3.00              | B              | 14,495  | 1973              | 1977            | 80          | 2057                      | 251                           |
| SA0413 | Payne Crescent     | AC       | 250                   | 39.60              | 3.00              | B              | 12,771  | 1973              | 1977            | 80          | 2057                      | 221                           |
| SA0445 | Payne Crescent     | AC       | 250                   | 43.60              | 3.00              | B              | 12,087  | 1973              | 1977            | 80          | 2057                      | 209                           |
| SA0447 | Vaughan Avenue     | AC       | 250                   | 74.70              | 3.00              | B              | 26,122  | 1973              | 1977            | 80          | 2057                      | 452                           |
| SA0517 | Payne Crescent     | AC       | 250                   | 102.40             | 3.00              | B              | 30,361  | 1973              | 1977            | 80          | 2057                      | 525                           |
| SA0553 | Payne Crescent     | AC       | 250                   | 32.00              | 3.00              | B              | 9,677   | 1973              | 1977            | 80          | 2057                      | 167                           |
| SA0615 | Centennial Drive   | AC       | 250                   | 64.00              | 3.00              | B              | 20,870  | 1973              | 1977            | 80          | 2057                      | 361                           |
| SA0643 | Centennial Drive   | AC       | 250                   | 51.80              | 3.00              | B              | 13,790  | 1973              | 1977            | 80          | 2057                      | 239                           |
| SA0705 | Centennial Drive   | AC       | 250                   | 70.10              | 3.00              | B              | 22,137  | 1973              | 1977            | 80          | 2057                      | 383                           |
| SA0743 | Centennial Drive   | AC       | 250                   | 33.50              | 3.00              | B              | 13,019  | 1973              | 1977            | 80          | 2057                      | 225                           |
| SA0781 | Centennial Drive   | AC       | 250                   | 81.10              | 3.00              | B              | 24,422  | 1973              | 1977            | 80          | 2057                      | 423                           |
| SA0787 | Centennial Drive   | AC       | 250                   | 47.80              | 3.00              | B              | 17,505  | 1973              | 1977            | 80          | 2057                      | 303                           |
| SA0823 | Centennial Drive   | AC       | 250                   | 59.70              | 3.00              | B              | 16,946  | 1973              | 1977            | 80          | 2057                      | 293                           |
| SA0859 | Centennial Drive   | AC       | 250                   | 26.20              | 3.00              | B              | 6,957   | 1973              | 1977            | 80          | 2057                      | 120                           |
| SA0897 | Centennial Drive   | AC       | 250                   | 67.10              | 3.00              | B              | 24,544  | 1973              | 1977            | 80          | 2057                      | 425                           |
| SA0931 | Centennial Drive   | AC       | 250                   | 61.00              | 3.00              | B              | 21,762  | 1973              | 1977            | 80          | 2057                      | 377                           |
| SA1069 | Centennial Drive   | AC       | 250                   | 20.00              | 3.00              | B              | 7,185   | 1973              | 1977            | 80          | 2057                      | 124                           |
| SA1165 | Centennial Drive   | AC       | 250                   | 37.20              | 3.00              | B              | 12,273  | 1973              | 1977            | 80          | 2057                      | 212                           |
| SA1329 | Centennial Drive   | AC       | 250                   | 65.00              | 3.00              | B              | 21,077  | 1973              | 1977            | 80          | 2057                      | 365                           |
| SA1553 | Centennial Drive   | AC       | 250                   | 30.50              | 3.00              | B              | 9,366   | 1973              | 1977            | 80          | 2057                      | 162                           |
| SA1611 | Centennial Drive   | AC       | 250                   | 42.70              | 3.00              | B              | 14,930  | 1973              | 1977            | 80          | 2057                      | 258                           |
| SA1641 | Carol Place        | AC       | 250                   | 57.90              | 3.00              | B              | 22,633  | 1973              | 1977            | 80          | 2057                      | 392                           |
| SA1837 | Vaughan Avenue     | AC       | 250                   | 64.00              | 3.00              | B              | 16,324  | 1973              | 1977            | 80          | 2057                      | 282                           |
| SA1445 | Stanley Drive      | AC       | 200                   | 72.80              | 3.00              | B              | 23,679  | 1975              | 1978            | 80          | 2058                      | 399                           |
| SA1447 | Stanley Drive      | AC       | 200                   | 74.40              | 3.00              | B              | 30,060  | 1975              | 1978            | 80          | 2058                      | 507                           |
| SA1449 | Stanley Drive      | AC       | 200                   | 74.70              | 3.00              | B              | 30,120  | 1975              | 1978            | 80          | 2058                      | 508                           |
| SA1451 | Stanley Drive      | AC       | 200                   | 71.30              | 3.00              | B              | 29,439  | 1975              | 1978            | 80          | 2058                      | 497                           |
| SA1453 | Stanley Drive      | AC       | 200                   | 29.30              | 3.00              | B              | 11,932  | 1975              | 1978            | 80          | 2058                      | 201                           |
| SA1455 | Stanley Drive      | AC       | 200                   | 31.10              | 3.00              | B              | 6,232   | 1975              | 1978            | 80          | 2058                      | 105                           |
| SA1467 | Pochon Avenue      | AC       | 200                   | 72.50              | 3.00              | B              | 37,255  | 1975              | 1978            | 80          | 2058                      | 628                           |
| SA1469 | Pochon Avenue      | AC       | 200                   | 44.50              | 3.00              | B              | 19,523  | 1975              | 1978            | 80          | 2058                      | 329                           |
| SA1471 | Pochon Avenue      | AC       | 200                   | 76.80              | 3.00              | B              | 32,056  | 1975              | 1978            | 80          | 2058                      | 541                           |
| SA1473 | Pochon Avenue      | AC       | 200                   | 53.30              | 3.00              | B              | 15,226  | 1975              | 1978            | 80          | 2058                      | 257                           |
| SA1475 | Pochon Avenue      | AC       | 200                   | 46.60              | 3.00              | B              | 16,914  | 1975              | 1978            | 80          | 2058                      | 285                           |
| SA1477 | Pochon Avenue      | AC       | 200                   | 100.30             | 3.00              | B              | 38,280  | 1975              | 1978            | 80          | 2058                      | 646                           |
| SA1479 | Arthur Mark Drive  | AC       | 200                   | 68.30              | 3.00              | B              | 34,898  | 1975              | 1978            | 80          | 2058                      | 589                           |
| SA1481 | Arthur Mark Drive  | AC       | 200                   | 90.50              | 3.00              | B              | 31,771  | 1975              | 1978            | 80          | 2058                      | 536                           |
| SA1483 | Arthur Mark Drive  | AC       | 200                   | 14.30              | 3.00              | B              | 7,411   | 1975              | 1978            | 80          | 2058                      | 125                           |
| SA1487 | Arthur Mark Drive  | AC       | 200                   | 62.20              | 3.00              | B              | 21,555  | 1975              | 1978            | 80          | 2058                      | 364                           |
| SA1489 | Arthur Mark Drive  | AC       | 200                   | 68.60              | 3.00              | B              | 21,322  | 1975              | 1978            | 80          | 2058                      | 360                           |
| SA1491 | Peacock Boulevard  | AC       | 200                   | 70.30              | 3.00              | B              | 26,208  | 1975              | 1978            | 80          | 2058                      | 442                           |
| SA1493 | Peacock Boulevard  | AC       | 200                   | 91.90              | 3.00              | B              | 36,597  | 1975              | 1978            | 80          | 2058                      | 617                           |
| SA1495 | Peacock Boulevard  | AC       | 200                   | 91.00              | 3.00              | B              | 45,508  | 1975              | 1978            | 80          | 2058                      | 768                           |
| SA1457 | Peacock Boulevard  | VC       | 450                   | 46.00              | 3.00              | B              | 24,734  | 1975              | 1978            | 80          | 2058                      | 417                           |
| SA1459 | Peacock Boulevard  | VC       | 450                   | 90.50              | 3.00              | B              | 44,413  | 1975              | 1978            | 80          | 2058                      | 749                           |
| SA1461 | Peacock Boulevard  | VC       | 450                   | 89.00              | 3.00              | B              | 45,418  | 1975              | 1978            | 80          | 2058                      | 766                           |
| SA1465 | Peacock Boulevard  | VC       | 525                   | 67.40              | 3.00              | B              | 31,063  | 1975              | 1978            | 80          | 2058                      | 524                           |

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|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA1497 | Peacock Boulevard  | VC       | 200                   | 57.30              | 3.00              | B              | 27,782  | 1975              | 1978            | 80          | 2058                      | 469                           |
| SA1499 | Kelly Crescent     | VC       | 525                   | 41.00              | 3.00              | B              | 18,240  | 1973              | 1978            | 80          | 2058                      | 308                           |
| SA1501 | Kelly Crescent     | VC       | 200                   | 9.10               | 3.00              | B              | 5,036   | 1973              | 1978            | 80          | 2058                      | 85                            |
| SA1503 | Kelly Crescent     | VC       | 200                   | 17.60              | 3.00              | B              | 14,485  | 1973              | 1978            | 80          | 2058                      | 244                           |
| SA1505 | Kelly Crescent     | VC       | 200                   | 19.20              | 3.00              | B              | 11,808  | 1973              | 1978            | 80          | 2058                      | 199                           |
| SA1507 | Kelly Crescent     | VC       | 200                   | 16.00              | 3.00              | B              | 3,527   | 1973              | 1978            | 80          | 2058                      | 59                            |
| SA1511 | Kelly Crescent     | VC       | 525                   | 16.40              | 3.00              | B              | 7,599   | 1973              | 1978            | 80          | 2058                      | 128                           |
| SA1523 | Kelly Crescent     | VC       | 200                   | 91.20              | 3.00              | B              | 32,024  | 1975              | 1978            | 80          | 2058                      | 540                           |
| SA1527 | Kelly Crescent     | VC       | 200                   | 87.20              | 3.00              | B              | 24,973  | 1975              | 1978            | 80          | 2058                      | 421                           |
| SA1529 | Kelly Crescent     | VC       | 200                   | 75.40              | 3.00              | B              | 21,593  | 1975              | 1978            | 80          | 2058                      | 364                           |
| SA0313 | Sherbourne Street  | CON      | 250                   | 60.40              | 2.38              | B              | 28,111  | 1944              | 1944            | 80          | 2024                      | 1,885                         |
| SA0977 | Shuter Street      | CON      | 250                   | 30.50              | 3.22              | C              | 10,781  | 1944              | 1944            | 80          | 2024                      | 723                           |
| SA0979 | Shuter Street      | CON      | 250                   | 72.90              | 2.33              | B              | 37,390  | 1944              | 1944            | 80          | 2024                      | 2,507                         |
| SA0981 | Shuter Street      | CON      | 250                   | 76.80              | 2.38              | B              | 32,537  | 1944              | 1944            | 80          | 2024                      | 2,182                         |
| SA0983 | Shuter Street      | CON      | 300                   | 100.60             | 2.20              | B              | 53,441  | 1944              | 1944            | 80          | 2024                      | 3,583                         |
| SA0985 | Shuter Street      | CON      | 300                   | 52.70              | 2.29              | B              | 20,589  | 1944              | 1944            | 80          | 2024                      | 1,381                         |
| SA0995 | Caldwell Street    | CON      | 200                   | 70.70              | 2.73              | B              | 28,249  | 1944              | 1944            | 80          | 2024                      | 1,894                         |
| SA0997 | Caldwell Street    | CON      | 200                   | 53.60              | 2.96              | B              | 17,892  | 1944              | 1944            | 80          | 2024                      | 1,200                         |
| SA1643 | John Street        | VC       | 200                   | 62.26              | 1.70              | A              | 22,431  | 1980              | 1980            | 80          | 2060                      | 360                           |
| SA1645 | John Street        | VC       | 200                   | 18.17              | 1.80              | A              | 6,791   | 1980              | 1980            | 80          | 2060                      | 109                           |
| SA1233 | Brown Street       | VC       | 200                   | 40.92              | 3.00              | B              | 15,656  | 1975              | 1981            | 40          | 2021                      | 1,353                         |
| SA1773 | Easement           | VC       | 200                   | 13.25              | 3.17              | C              | 4,072   | 1982              | 1982            | 40          | 2022                      | 321                           |
| SA0747 | Young Street       | PVC      | 200                   | 129.50             | 1.98              | A              | 57,815  | 1952              | 1952            | 75          | 2027                      | 3,152                         |
| SA0975 | Shuter Street      | CON      | 250                   | 97.20              | 4.55              | D              | 31,904  | 1952              | 1952            | 75          | 2027                      | 1,739                         |
| SA0491 | Hope Street N.     | VC       | 200                   | 69.22              | 4.00              | C              | 33,085  | 1988              | 1988            | 40          | 2028                      | 1,696                         |
| SA0745 | Charles Street     | CON      | 200                   | 108.00             | 1.91              | A              | 39,840  | 1954              | 1954            | 75          | 2029                      | 1,927                         |
| SA0635 | Hillcrest Drive    | CON      | 250                   | 110.30             | 2.75              | B              | 43,547  | 1956              | 1956            | 75          | 2031                      | 1,889                         |
| SA0637 | Hillcrest Drive    | CON      | 250                   | 113.70             | 2.59              | B              | 54,307  | 1956              | 1956            | 75          | 2031                      | 2,356                         |
| SA0819 | Rose Glen Road     | CON      | 200                   | 78.00              | 3.00              | B              | 22,276  | 1956              | 1956            | 75          | 2031                      | 966                           |
| SA0821 | Rose Glen Road     | CON      | 200                   | 115.80             | 3.00              | B              | 34,086  | 1956              | 1956            | 75          | 2031                      | 1,479                         |
| SA0155 | Easment            | CON      | 525                   | 101.20             | 1.99              | A              | 56,304  | 1958              | 1958            | 75          | 2033                      | 2,211                         |
| SA0187 | Easment            | CON      | 525                   | 14.36              | 2.11              | B              | 8,911   | 1958              | 1958            | 75          | 2033                      | 350                           |
| SA0311 | Sherbourne Street  | VC       | 200                   | 123.70             | 2.54              | B              | 53,142  | 1994              | 1994            | 40          | 2034                      | 1,992                         |
| SA1091 | Sherbourne Street  | VC       | 200                   | 46.60              | 2.07              | B              | 23,188  | 1994              | 1994            | 40          | 2034                      | 869                           |
| SA0223 | Victoria Street S. | VC       | 200                   | 125.60             | 2.21              | B              | 45,812  | 1997              | 1997            | 40          | 2037                      | 1,506                         |
| SA1047 | Lake Street        | CON      | 600                   | 96.60              | 1.38              | A              | 39,111  | 1956              | 1963            | 75          | 2038                      | 1,235                         |
| SA1049 | Lake Street        | CON      | 600                   | 96.60              | 1.81              | A              | 41,080  | 1956              | 1963            | 75          | 2038                      | 1,297                         |
| SA1051 | Lake Street        | CON      | 600                   | 96.30              | 3.42              | C              | 49,226  | 1956              | 1963            | 75          | 2038                      | 1,554                         |
| SA1053 | Lake Street        | CON      | 600                   | 88.70              | 2.59              | B              | 43,651  | 1956              | 1963            | 75          | 2038                      | 1,378                         |
| SA1059 | Lake Street        | CON      | 600                   | 88.40              | 1.12              | A              | 35,791  | 1956              | 1963            | 75          | 2038                      | 1,130                         |
| SA0075 | Brogden's Lane     | CON      | 200                   | 15.20              | 1.83              | A              | 5,142   | 1964              | 1964            | 75          | 2039                      | 156                           |
| SA0077 | Brogden's Lane     | CON      | 200                   | 10.70              | 0.90              | A              | 2,582   | 1964              | 1964            | 75          | 2039                      | 78                            |
| SA0079 | Brogden's Lane     | CON      | 200                   | 45.00              | 1.79              | A              | 20,918  | 1964              | 1964            | 75          | 2039                      | 635                           |
| SA0081 | Brogden's Lane     | CON      | 375                   | 120.00             | 1.63              | A              | 72,360  | 1964              | 1964            | 75          | 2039                      | 2,196                         |
| SA0437 | Brogden's Lane     | CON      | 200                   | 11.52              | 3.00              | B              | 2,999   | 1964              | 1964            | 75          | 2039                      | 91                            |
| SA0809 | Hope Street        | CON      | 200                   | 10.00              | 0.13              | A              | 2,413   | 1964              | 1964            | 75          | 2039                      | 73                            |
| SA1783 | Pine Street        | CON      | 200                   | 30.00              | 1.14              | A              | 15,113  | 1964              | 1964            | 75          | 2039                      | 459                           |
| SA1237 | Cavan Street       | CON      | 200                   | 88.70              | 1.31              | A              | 32,490  | 1966              | 1966            | 75          | 2041                      | 914                           |
| SA0431 | Mill Street        | CON      | 600                   | 25.00              | 1.80              | A              | 12,090  | 1967              | 1967            | 75          | 2042                      | 328                           |
| SA0433 | Mill Street        | CON      | 200                   | 4.84               | 2.87              | B              | 1,260   | 1967              | 1967            | 75          | 2042                      | 34                            |
| SA0435 | Mill Street        | CON      | 200                   | 10.00              | 1.91              | A              | 2,413   | 1967              | 1967            | 75          | 2042                      | 66                            |
| SA0567 | Alfred Street      | CON      | 200                   | 49.20              | 3.00              | B              | 16,746  | 1967              | 1967            | 75          | 2042                      | 455                           |
| SA0569 | Alfred Street      | PVC      | 150                   | 45.62              | 3.00              | B              | 15,338  | 1967              | 1967            | 75          | 2042                      | 416                           |
| SA0709 | Brimley Street     | VC       | 200                   | 72.10              | 1.74              | A              | 30,949  | 2002              | 2002            | 40          | 2042                      | 840                           |
| SA0739 | Brimley Street     | VC       | 200                   | 68.00              | 1.20              | A              | 37,734  | 2002              | 2002            | 40          | 2042                      | 1,024                         |
| SA0543 | Easement           | CON      | 200                   | 62.03              | 3.62              | C              | 27,174  | 1968              | 1968            | 75          | 2043                      | 712                           |
| SA0605 | Wellington Street  | CON      | 200                   | 69.00              | 3.62              | C              | 23,216  | 1968              | 1968            | 75          | 2043                      | 609                           |
| SA0607 | Wellington Street  | CON      | 200                   | 58.50              | 3.00              | B              | 21,136  | 1968              | 1968            | 75          | 2043                      | 554                           |
| SA0989 | Arthur Street      | PVC      | 250                   | 8.00               | 3.37              | C              | 2,337   | 1968              | 1968            | 75          | 2043                      | 61                            |
| SA1223 | Peter Street       | CON      | 250                   | 68.60              | 3.00              | B              | 20,482  | 1968              | 1968            | 75          | 2043                      | 537                           |
| SA1225 | Peter Street       | CON      | 250                   | 68.60              | 3.00              | B              | 30,324  | 1968              | 1968            | 75          | 2043                      | 795                           |
| SA0237 | Brimley Street     | VC       | 200                   | 111.30             | 4.07              | D              | 48,350  | 2003              | 2003            | 40          | 2043                      | 1,267                         |
| SA0251 | Brimley Street     | VC       | 200                   | 111.30             | 4.68              | D              | 54,256  | 2003              | 2003            | 40          | 2043                      | 1,422                         |
| SA0253 | Brimley Street     | VC       | 200                   | 82.30              | 2.64              | B              | 39,317  | 2003              | 2003            | 40          | 2043                      | 1,031                         |
| SA0417 | Mill Street        | CON      | 350                   | 110.00             | 1.34              | A              | 46,292  | 1970              | 1970            | 75          | 2045                      | 1,134                         |
| SA0419 | Mill Street        | CON      | 350                   | 97.00              | 1.74              | A              | 37,814  | 1970              | 1970            | 75          | 2045                      | 926                           |
| SA0421 | Mill Street        | CON      | 350                   | 100.00             | 1.86              | A              | 48,705  | 1970              | 1970            | 75          | 2045                      | 1,193                         |
| SA0427 | Mill Street        | CON      | 350                   | 75.30              | 2.59              | B              | 33,344  | 1970              | 1970            | 75          | 2045                      | 817                           |
| SA0429 | Mill Street        | CON      | 200                   | 60.85              | 2.27              | B              | 15,842  | 1970              | 1970            | 75          | 2045                      | 388                           |

**TABLE A-3  
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| D      | Road Name/Location   | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|----------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0393 | Hayward Street       | CON      | 200                   | 11.02              | 2.77              | B              | 2,869   | 1974              | 1974            | 75          | 2049                      | 62                            |
| SA0395 | Hayward Street       | CON      | 300                   | 91.40              | 2.48              | B              | 28,880  | 1974              | 1974            | 75          | 2049                      | 624                           |
| SA0397 | Hayward Street       | CON      | 300                   | 67.00              | 2.55              | B              | 21,170  | 1974              | 1974            | 75          | 2049                      | 457                           |
| SA0399 | Hayward Street       | CON      | 300                   | 80.00              | 2.57              | B              | 41,788  | 1974              | 1974            | 75          | 2049                      | 903                           |
| SA0003 | Walton Street        | CON      | 525                   | 90.00              | 2.32              | B              | 88,481  | 1975              | 1975            | 75          | 2050                      | 1,855                         |
| SA0071 | Cavan street         | CON      | 200                   | 61.76              | 3.00              | B              | 48,228  | 1975              | 1975            | 75          | 2050                      | 1,011                         |
| SA0103 | Ridout Street        | CON      | 300                   | 63.00              | 3.74              | C              | 28,677  | 1975              | 1975            | 75          | 2050                      | 601                           |
| SA0105 | Walton Street        | CON      | 300                   | 74.00              | 2.72              | B              | 33,225  | 1975              | 1975            | 75          | 2050                      | 697                           |
| SA0111 | Walton Street        | CON      | 300                   | 101.00             | 1.66              | A              | 57,549  | 1975              | 1975            | 75          | 2050                      | 1,207                         |
| SA0113 | Walton Street        | CON      | 200                   | 11.35              | 1.32              | A              | 10,613  | 1975              | 1975            | 75          | 2050                      | 223                           |
| SA0115 | Walton Street        | CON      | 250                   | 72.00              | 1.58              | A              | 25,933  | 1975              | 1975            | 75          | 2050                      | 544                           |
| SA0117 | Walton Street        | CON      | 250                   | 10.00              | 1.30              | A              | 6,445   | 1975              | 1975            | 75          | 2050                      | 135                           |
| SA0123 | Walton Street        | CON      | 250                   | 62.00              | 1.32              | A              | 17,520  | 1975              | 1975            | 75          | 2050                      | 367                           |
| SA0135 | Walton Street        | CON      | 250                   | 30.00              | 1.43              | A              | 15,399  | 1975              | 1975            | 75          | 2050                      | 323                           |
| SA0137 | Walton Street        | CON      | 250                   | 110.00             | 1.81              | A              | 43,339  | 1975              | 1975            | 75          | 2050                      | 909                           |
| SA0139 | Walton Street        | CON      | 450                   | 118.00             | 2.91              | B              | 71,023  | 1975              | 1975            | 75          | 2050                      | 1,489                         |
| SA0141 | Walton Street        | CON      | 450                   | 45.00              | 2.62              | B              | 27,919  | 1975              | 1975            | 75          | 2050                      | 585                           |
| SA0143 | Walton Street        | CON      | 250                   | 96.00              | 2.62              | B              | 65,278  | 1975              | 1975            | 75          | 2050                      | 1,369                         |
| SA0145 | Walton Street        | CON      | 450                   | 121.90             | 1.91              | A              | 64,884  | 1975              | 1975            | 75          | 2050                      | 1,361                         |
| SA0147 | Walton Street        | CON      | 450                   | 130.00             | 1.88              | A              | 70,304  | 1975              | 1975            | 75          | 2050                      | 1,474                         |
| SA0149 | Walton Street        | CON      | 200                   | 10.00              | 1.79              | A              | 3,336   | 1975              | 1975            | 75          | 2050                      | 70                            |
| SA0151 | Walton Street        | CON      | 525                   | 16.40              | 1.83              | A              | 8,693   | 1975              | 1975            | 75          | 2050                      | 182                           |
| SA1805 | Walton Street        | CON      | 200                   | 10.00              | 0.87              | A              | 2,413   | 1975              | 1975            | 75          | 2050                      | 51                            |
| SA0007 | Bedford Street       | PVC      | 200                   | 103.50             | 3.09              | C              | 42,037  | 1980              | 1980            | 75          | 2055                      | 766                           |
| SA0009 | Bedford Street       | PVC      | 200                   | 98.00              | 3.00              | B              | 34,961  | 1980              | 1980            | 75          | 2055                      | 637                           |
| SA0339 | Alexander Street     | CON      | 250                   | 13.46              | 4.09              | D              | 4,145   | 1981              | 1981            | 75          | 2056                      | 74                            |
| SA0389 | John Street          | CON      | 250                   | 28.00              | 2.02              | B              | 7,557   | 1981              | 1981            | 75          | 2056                      | 134                           |
| SA0391 | John Street          | CON      | 250                   | 43.00              | 2.81              | B              | 13,573  | 1981              | 1981            | 75          | 2056                      | 241                           |
| SA0401 | Eldorado             | CON      | 250                   | 91.40              | 2.20              | B              | 24,667  | 1981              | 1981            | 75          | 2056                      | 438                           |
| SA0403 | Eldorado             | CON      | 250                   | 82.30              | 1.55              | A              | 20,643  | 1981              | 1981            | 75          | 2056                      | 367                           |
| SA0405 | Eldorado             | CON      | 250                   | 134.00             | 1.13              | A              | 33,611  | 1981              | 1981            | 75          | 2056                      | 597                           |
| SA0407 | Eldorado             | CON      | 250                   | 121.90             | 0.81              | A              | 30,576  | 1981              | 1981            | 75          | 2056                      | 543                           |
| SA1117 | Alexander Street     | CON      | 250                   | 53.92              | 5.60              | E              | 21,570  | 1981              | 1981            | 75          | 2056                      | 383                           |
| SA1123 | John Street          | CON      | 250                   | 33.00              | 2.01              | B              | 8,906   | 1981              | 1981            | 75          | 2056                      | 158                           |
| SA0357 | Marsh Street         | CON      | 150                   | 72.90              | 2.52              | B              | 18,285  | 1982              | 1982            | 75          | 2057                      | 316                           |
| SA0359 | Marsh Street         | CON      | 150                   | 96.89              | 2.56              | B              | 24,302  | 1982              | 1982            | 75          | 2057                      | 420                           |
| SA0365 | Marsh Street         | CON      | 150                   | 81.80              | 1.93              | A              | 18,959  | 1982              | 1982            | 75          | 2057                      | 328                           |
| SA0361 | Choate Street        | CON      | 150                   | 72.00              | 2.57              | B              | 27,902  | 1983              | 1983            | 75          | 2058                      | 471                           |
| SA0363 | Marsh Street         | CON      | 150                   | 57.34              | 2.63              | B              | 14,382  | 1983              | 1983            | 75          | 2058                      | 243                           |
| SA1119 | Alexander Street     | CON      | 250                   | 68.86              | 3.00              | B              | 18,044  | 1983              | 1983            | 75          | 2058                      | 304                           |
| SA1121 | Alexander Street     | CON      | 250                   | 27.00              | 3.00              | B              | 7,287   | 1983              | 1983            | 75          | 2058                      | 123                           |
| SA1125 | Hayward Street       | CON      | 250                   | 14.00              | 3.00              | B              | 3,778   | 1983              | 1983            | 75          | 2058                      | 64                            |
| SA1127 | Hayward Street       | CON      | 250                   | 71.00              | 3.00              | B              | 19,161  | 1983              | 1983            | 75          | 2058                      | 323                           |
| SA1693 | Highway #2           | CON      | 450                   | 106.00             | 3.19              | C              | 46,393  | 1983              | 1983            | 75          | 2058                      | 783                           |
| SA1695 | Highway #2           | CON      | 450                   | 78.00              | 3.00              | B              | 33,301  | 1983              | 1983            | 75          | 2058                      | 562                           |
| SA1699 | Highway #2           | CON      | 450                   | 92.00              | 3.44              | C              | 38,557  | 1983              | 1983            | 75          | 2058                      | 650                           |
| SA1701 | Highway #2           | CON      | 300                   | 105.00             | 3.30              | C              | 40,577  | 1983              | 1983            | 75          | 2058                      | 684                           |
| SA1703 | Highway #2           | CON      | 300                   | 105.00             | 2.84              | B              | 35,146  | 1983              | 1983            | 75          | 2058                      | 593                           |
| SA1705 | Highway #2           | CON      | 300                   | 90.00              | 3.07              | C              | 29,718  | 1983              | 1983            | 75          | 2058                      | 501                           |
| SA1707 | Highway #2           | CON      | 300                   | 100.00             | 3.27              | C              | 34,989  | 1983              | 1983            | 75          | 2058                      | 590                           |
| SA0017 | Hewson Drive         | PVC      | 200                   | 24.50              | 3.00              | B              | 5,970   | 1985              | 1985            | 75          | 2060                      | 96                            |
| SA0021 | Hewson Drive         | PVC      | 200                   | 52.50              | 3.00              | B              | 18,636  | 1985              | 1985            | 75          | 2060                      | 299                           |
| SA0025 | Hewson Drive         | PVC      | 200                   | 78.50              | 3.00              | B              | 29,424  | 1985              | 1985            | 75          | 2060                      | 472                           |
| SA0029 | Hewson Drive         | PVC      | 200                   | 30.00              | 3.00              | B              | 13,030  | 1985              | 1985            | 75          | 2060                      | 209                           |
| SA0031 | Hewson Drive         | PVC      | 200                   | 65.00              | 3.00              | B              | 20,909  | 1985              | 1985            | 75          | 2060                      | 336                           |
| SA0037 | Hewson Drive         | PVC      | 200                   | 22.00              | 3.00              | B              | 10,060  | 1985              | 1985            | 75          | 2060                      | 161                           |
| SA0045 | Hewson Drive         | PVC      | 200                   | 72.50              | 3.00              | B              | 22,272  | 1985              | 1985            | 75          | 2060                      | 357                           |
| SA0049 | Hewson Drive         | PVC      | 200                   | 68.50              | 3.00              | B              | 21,545  | 1985              | 1985            | 75          | 2060                      | 346                           |
| SA0053 | Hewson Drive         | PVC      | 200                   | 43.50              | 3.00              | B              | 7,909   | 1985              | 1985            | 75          | 2060                      | 127                           |
| SA0885 | DeBlaquire Street S. | PVC      | 250                   | 73.40              | 2.51              | B              | 39,624  | 1987              | 1987            | 75          | 2062                      | 606                           |
| SA0887 | DeBlaquire Street S. | PVC      | 250                   | 53.50              | 3.00              | B              | 26,344  | 1987              | 1987            | 75          | 2062                      | 403                           |
| SA0889 | DeBlaquire Street S. | PVC      | 250                   | 106.00             | 0.91              | A              | 26,937  | 1987              | 1987            | 75          | 2062                      | 412                           |
| SA0891 | DeBlaquire Street S. | PVC      | 200                   | 37.50              | 3.00              | B              | 8,858   | 1987              | 1987            | 75          | 2062                      | 135                           |
| SA0893 | DeBlaquire Street S. | PVC      | 250                   | 58.50              | 3.00              | B              | 76,915  | 1987              | 1987            | 75          | 2062                      | 1,176                         |
| SA0895 | DeBlaquire Street S. | PVC      | 250                   | 37.50              | 3.00              | B              | 10,187  | 1987              | 1987            | 75          | 2062                      | 156                           |
| SA0901 | DeBlaquire Street S. | PVC      | 250                   | 91.60              | 1.98              | A              | 37,058  | 1987              | 1987            | 75          | 2062                      | 567                           |
| SA0489 | Hope Street N.       | PVC      | 200                   | 100.00             | 3.73              | C              | 31,306  | 1988              | 1988            | 75          | 2063                      | 468                           |
| SA0493 | Hope Street N.       | PVC      | 250                   | 32.00              | 4.31              | D              | 11,970  | 1988              | 1988            | 75          | 2063                      | 179                           |
| SA0499 | Hope Street N.       | PVC      | 250                   | 5.00               | 2.67              | B              | 1,358   | 1988              | 1988            | 75          | 2063                      | 20                            |

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|--------|---------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0501 | Hope Street N.      | PVC      | 250                   | 16.00              | 5.85              | F              | 5,281   | 1988              | 1988            | 75          | 2063                      | 79                            |
| SA0527 | Wellington Street   | PVC      | 200                   | 90.00              | 6.05              | E              | 37,871  | 1988              | 1988            | 75          | 2063                      | 566                           |
| SA0565 | Alfred Street       | PVC      | 200                   | 4.00               | 2.07              | B              | 2,913   | 1988              | 1988            | 75          | 2063                      | 44                            |
| SA0677 | Philips Road        | PVC      | 250                   | 102.00             | 3.05              | C              | 29,794  | 1988              | 1988            | 75          | 2063                      | 445                           |
| SA0679 | Wellington Street   | PVC      | 200                   | 85.00              | 6.27              | F              | 32,487  | 1988              | 1988            | 75          | 2063                      | 485                           |
| SA0681 | Philips Road        | PVC      | 250                   | 60.00              | 4.34              | D              | 18,753  | 1988              | 1988            | 75          | 2063                      | 280                           |
| SA0685 | Philips Road        | PVC      | 250                   | 97.00              | 4.01              | D              | 30,317  | 1988              | 1988            | 75          | 2063                      | 453                           |
| SA0687 | Wladyka Park        | PVC      | 200                   | 64.00              | 3.08              | C              | 16,256  | 1988              | 1988            | 75          | 2063                      | 243                           |
| SA0689 | Wladyka Park        | PVC      | 200                   | 46.00              | 3.38              | C              | 11,684  | 1988              | 1988            | 75          | 2063                      | 175                           |
| SA1301 | Hodgson Street      | PVC      | 200                   | 93.00              | 5.08              | E              | 32,848  | 1988              | 1988            | 75          | 2063                      | 491                           |
| SA1307 | Hodgson Street      | PVC      | 200                   | 33.80              | 5.42              | E              | 10,563  | 1988              | 1988            | 75          | 2063                      | 158                           |
| SA1311 | Hodgson Street      | PVC      | 200                   | 102.70             | 4.34              | D              | 35,119  | 1988              | 1988            | 75          | 2063                      | 525                           |
| SA1313 | Hodgson Street      | PVC      | 200                   | 23.20              | 5.75              | E              | 6,686   | 1988              | 1988            | 75          | 2063                      | 100                           |
| SA1335 | Phillips Road       | CON      | 200                   | 10.00              | 3.00              | B              | 2,604   | 1988              | 1988            | 75          | 2063                      | 39                            |
| SA1337 | Phillips Road       | CON      | 200                   | 48.69              | 3.00              | B              | 14,645  | 1988              | 1988            | 75          | 2063                      | 219                           |
| SA1339 | Phillips Road       | CON      | 200                   | 53.91              | 3.00              | B              | 16,004  | 1988              | 1988            | 75          | 2063                      | 239                           |
| SA1341 | Phillips Road       | PVC      | 250                   | 112.00             | 3.97              | C              | 32,715  | 1988              | 1988            | 75          | 2063                      | 489                           |
| SA1343 | Phillips Road       | PVC      | 250                   | 108.00             | 3.61              | C              | 41,389  | 1988              | 1988            | 75          | 2063                      | 618                           |
| SA1345 | Rose Glen Road      | PVC      | 300                   | 95.00              | 3.16              | C              | 31,369  | 1988              | 1988            | 75          | 2063                      | 469                           |
| SA1347 | Rose Glen Road      | PVC      | 300                   | 95.00              | 3.04              | C              | 31,369  | 1988              | 1988            | 75          | 2063                      | 469                           |
| SA1349 | Rose Glen Road      | PVC      | 300                   | 97.10              | 3.31              | C              | 34,031  | 1988              | 1988            | 75          | 2063                      | 508                           |
| SA1351 | Rose Glen Road      | PVC      | 300                   | 85.60              | 3.46              | C              | 30,234  | 1988              | 1988            | 75          | 2063                      | 452                           |
| SA1355 | Rose Glen Road      | PVC      | 300                   | 79.00              | 3.37              | C              | 28,054  | 1988              | 1988            | 75          | 2063                      | 419                           |
| SA1377 | Easement            | PVC      | 375                   | 45.10              | 3.00              | B              | 18,122  | 1988              | 1988            | 75          | 2063                      | 271                           |
| SA1389 | Easement            | PVC      | 375                   | 72.60              | 3.00              | B              | 22,447  | 1988              | 1988            | 75          | 2063                      | 335                           |
| SA1391 | Easement            | PVC      | 375                   | 24.70              | 3.00              | B              | 6,606   | 1988              | 1988            | 75          | 2063                      | 99                            |
| SA1561 | Beamish Street      | PVC      | 200                   | 118.00             | 3.43              | C              | 47,689  | 1988              | 1988            | 75          | 2063                      | 712                           |
| SA1563 | Hope Street N.      | PVC      | 250                   | 90.00              | 5.55              | E              | 39,549  | 1988              | 1988            | 75          | 2063                      | 591                           |
| SA1565 | Bennett Court       | PVC      | 200                   | 32.00              | 3.60              | C              | 19,939  | 1988              | 1988            | 75          | 2063                      | 298                           |
| SA1567 | Bennett Court       | PVC      | 200                   | 74.00              | 4.90              | D              | 31,923  | 1988              | 1988            | 75          | 2063                      | 477                           |
| SA1569 | Hope Street N.      | PVC      | 250                   | 99.00              | 5.02              | E              | 40,551  | 1988              | 1988            | 75          | 2063                      | 606                           |
| SA1571 | Hope Street N.      | PVC      | 250                   | 120.00             | 5.37              | E              | 59,294  | 1988              | 1988            | 75          | 2063                      | 886                           |
| SA1573 | Hope Street N.      | PVC      | 250                   | 95.00              | 3.92              | C              | 41,529  | 1988              | 1988            | 75          | 2063                      | 620                           |
| SA1575 | Hope Street N.      | PVC      | 250                   | 23.50              | 4.10              | D              | 11,282  | 1988              | 1988            | 75          | 2063                      | 169                           |
| SA1577 | Hope Street N.      | PVC      | 250                   | 77.50              | 2.54              | B              | 24,990  | 1988              | 1988            | 75          | 2063                      | 373                           |
| SA1579 | Hope Street N.      | PVC      | 300                   | 115.00             | 1.61              | A              | 38,113  | 1988              | 1988            | 75          | 2063                      | 569                           |
| SA1581 | Walnut Street       | PVC      | 200                   | 72.00              | 4.06              | D              | 33,348  | 1988              | 1988            | 75          | 2063                      | 498                           |
| SA1585 | Walnut Street       | PVC      | 200                   | 70.00              | 2.77              | B              | 24,409  | 1988              | 1988            | 75          | 2063                      | 365                           |
| SA1587 | Molson Street       | PVC      | 200                   | 96.00              | 3.29              | C              | 26,353  | 1988              | 1988            | 75          | 2063                      | 394                           |
| SA1589 | Molson Street       | PVC      | 200                   | 40.50              | 3.91              | C              | 16,193  | 1988              | 1988            | 75          | 2063                      | 242                           |
| SA1591 | Molson Street       | PVC      | 200                   | 110.00             | 3.65              | C              | 35,814  | 1988              | 1988            | 75          | 2063                      | 535                           |
| SA1593 | Alfred Street       | PVC      | 200                   | 120.00             | 2.03              | B              | 34,252  | 1988              | 1988            | 75          | 2063                      | 512                           |
| SA1595 | Alfred Street       | PVC      | 200                   | 17.00              | 2.42              | B              | 4,016   | 1988              | 1988            | 75          | 2063                      | 60                            |
| SA1597 | Molson Street       | PVC      | 200                   | 75.00              | 4.75              | D              | 32,195  | 1988              | 1988            | 75          | 2063                      | 481                           |
| SA1599 | Mitchell Street     | PVC      | 200                   | 90.00              | 3.43              | C              | 24,829  | 1988              | 1988            | 75          | 2063                      | 371                           |
| SA1601 | Mitchell Street     | PVC      | 200                   | 49.00              | 3.30              | C              | 14,415  | 1988              | 1988            | 75          | 2063                      | 215                           |
| SA0627 | Lavinia Street      | PVC      | 200                   | 52.00              | 2.52              | B              | 12,283  | 1989              | 1989            | 75          | 2064                      | 179                           |
| SA1011 | Hillcrest Drive     | PVC      | 250                   | 9.00               | 2.59              | B              | 2,445   | 1989              | 1989            | 75          | 2064                      | 36                            |
| SA1033 | Fraser Street       | CON      | 300                   | 10.00              | 2.31              | B              | 3,160   | 1989              | 1989            | 75          | 2064                      | 46                            |
| SA1647 | Toronto Road        | CON      | 450                   | 113.00             | 3.66              | C              | 53,264  | 1989              | 1989            | 75          | 2064                      | 777                           |
| SA1649 | Toronto Road        | CON      | 450                   | 100.00             | 4.17              | D              | 57,277  | 1989              | 1989            | 75          | 2064                      | 836                           |
| SA1651 | Toronto Road        | CON      | 450                   | 81.00              | 3.97              | C              | 39,853  | 1989              | 1989            | 75          | 2064                      | 582                           |
| SA1653 | Toronto Road        | CON      | 450                   | 84.00              | 3.43              | C              | 45,047  | 1989              | 1989            | 75          | 2064                      | 658                           |
| SA1655 | Toronto Road        | CON      | 450                   | 104.00             | 4.33              | D              | 55,080  | 1989              | 1989            | 75          | 2064                      | 804                           |
| SA1657 | Toronto Road        | CON      | 450                   | 80.00              | 3.90              | C              | 45,339  | 1989              | 1989            | 75          | 2064                      | 662                           |
| SA1659 | Toronto Road        | CON      | 450                   | 68.00              | 3.90              | C              | 32,436  | 1989              | 1989            | 75          | 2064                      | 473                           |
| SA1661 | Toronto Road        | CON      | 450                   | 77.00              | 7.19              | E              | 40,621  | 1989              | 1989            | 75          | 2064                      | 593                           |
| SA1663 | Toronto Road        | CON      | 450                   | 64.00              | 6.30              | E              | 32,791  | 1989              | 1989            | 75          | 2064                      | 479                           |
| SA1665 | Toronto Road        | CON      | 450                   | 27.00              | 5.97              | E              | 12,173  | 1989              | 1989            | 75          | 2064                      | 178                           |
| SA1669 | Charles Street      | CON      | 300                   | 21.00              | 1.80              | A              | 8,204   | 1989              | 1989            | 75          | 2064                      | 120                           |
| SA1671 | Toronto Road        | CON      | 450                   | 41.00              | 3.42              | C              | 21,120  | 1989              | 1989            | 75          | 2064                      | 308                           |
| SA1673 | Toronto Road        | CON      | 450                   | 100.00             | 4.20              | D              | 45,466  | 1989              | 1989            | 75          | 2064                      | 664                           |
| SA1675 | Charles Street      | CON      | 200                   | 77.00              | 4.15              | D              | 34,792  | 1989              | 1989            | 75          | 2064                      | 508                           |
| SA1677 | Charles Street      | CON      | 200                   | 90.00              | 6.07              | E              | 38,418  | 1989              | 1989            | 75          | 2064                      | 561                           |
| SA1679 | Victoria Street. S. | CON      | 450                   | 63.00              | 5.17              | E              | 34,309  | 1989              | 1989            | 75          | 2064                      | 501                           |
| SA1681 | Victoria Street. S. | CON      | 450                   | 64.00              | 3.84              | C              | 28,791  | 1989              | 1989            | 75          | 2064                      | 420                           |
| SA1683 | Victoria Street. S. | CON      | 450                   | 52.00              | 2.97              | B              | 22,857  | 1989              | 1989            | 75          | 2064                      | 334                           |
| SA1685 | Victoria Street. S. | CON      | 450                   | 58.00              | 2.52              | B              | 27,236  | 1989              | 1989            | 75          | 2064                      | 398                           |
| SA1689 | Toronto Road        | CON      | 450                   | 100.00             | 3.45              | C              | 63,564  | 1989              | 1989            | 75          | 2064                      | 928                           |

**TABLE A-3  
MUNICIPALITY OF PORT HOPE  
Sewermain Inventory, 2009**

| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA1697 | Toronto Road       | CON      | 450                   | 100.00             | 3.82              | C              | 45,847  | 1989              | 1989            | 75          | 2064                      | 669                           |
| SA1719 | Toronto Road       | CON      | 450                   | 100.00             | 3.89              | C              | 47,816  | 1989              | 1989            | 75          | 2064                      | 698                           |
| SA1737 | Toronto Road       | CON      | 450                   | 100.00             | 4.16              | D              | 45,466  | 1989              | 1989            | 75          | 2064                      | 664                           |
| SA1759 | Toronto Road       | CON      | 450                   | 76.00              | 3.97              | C              | 33,820  | 1989              | 1989            | 75          | 2064                      | 494                           |
| SA1761 | Percival Street    | CON      | 200                   | 11.00              | 2.51              | B              | 2,864   | 1989              | 1989            | 75          | 2064                      | 42                            |
| SA1763 | Toronto Road       | CON      | 450                   | 50.00              | 4.09              | D              | 25,686  | 1989              | 1989            | 75          | 2064                      | 375                           |
| SA1765 | Toronto Road       | CON      | 450                   | 106.00             | 3.99              | C              | 50,330  | 1989              | 1989            | 75          | 2064                      | 735                           |
| SA1793 | Toronto Road       | CON      | 450                   | 25.00              | 3.36              | C              | 12,446  | 1989              | 1989            | 75          | 2064                      | 182                           |
| SA0321 | Augusta Street     | CON      | 600                   | 91.10              | 2.86              | B              | 76,498  | 1990              | 1990            | 75          | 2065                      | 1,091                         |
| SA0629 | Lavinia Street     | PVC      | 200                   | 21.00              | 2.83              | B              | 12,835  | 1990              | 1990            | 75          | 2065                      | 183                           |
| SA0631 | Lavinia Street     | PVC      | 200                   | 62.00              | 3.34              | C              | 23,622  | 1990              | 1990            | 75          | 2065                      | 337                           |
| SA0633 | Lavinia Street     | PVC      | 200                   | 60.00              | 3.06              | C              | 32,957  | 1990              | 1990            | 75          | 2065                      | 470                           |
| SA1709 | Croft Street       | PVC      | 200                   | 36.60              | 2.99              | B              | 6,654   | 1990              | 1990            | 75          | 2065                      | 95                            |
| SA1711 | Croft Street       | PVC      | 200                   | 91.50              | 2.85              | B              | 16,636  | 1990              | 1990            | 75          | 2065                      | 237                           |
| SA1713 | Croft Street       | PVC      | 200                   | 91.50              | 3.09              | C              | 19,403  | 1990              | 1990            | 75          | 2065                      | 277                           |
| SA1715 | Croft Street       | PVC      | 200                   | 91.50              | 3.23              | C              | 17,888  | 1990              | 1990            | 75          | 2065                      | 255                           |
| SA1717 | Croft Street       | PVC      | 200                   | 82.30              | 3.84              | C              | 16,090  | 1990              | 1990            | 75          | 2065                      | 230                           |
| SA1721 | Croft Street       | PVC      | 200                   | 109.70             | 4.33              | D              | 22,948  | 1990              | 1990            | 75          | 2065                      | 327                           |
| SA1723 | Croft Street       | PVC      | 200                   | 76.20              | 3.83              | C              | 16,412  | 1990              | 1990            | 75          | 2065                      | 234                           |
| SA1725 | Croft Street       | PVC      | 200                   | 91.50              | 3.52              | C              | 19,403  | 1990              | 1990            | 75          | 2065                      | 277                           |
| SA1727 | Croft Street       | PVC      | 200                   | 91.50              | 3.55              | C              | 17,888  | 1990              | 1990            | 75          | 2065                      | 255                           |
| SA1729 | Croft Street       | PVC      | 200                   | 91.50              | 3.38              | C              | 20,919  | 1990              | 1990            | 75          | 2065                      | 298                           |
| SA1731 | Croft Street       | PVC      | 200                   | 36.00              | 4.96              | D              | 7,531   | 1990              | 1990            | 75          | 2065                      | 107                           |
| SA1733 | Rose Glen Road     | PVC      | 250                   | 75.00              | 3.06              | C              | 23,876  | 1990              | 1990            | 75          | 2065                      | 341                           |
| SA1735 | Rose Glen Road     | PVC      | 250                   | 75.00              | 2.41              | B              | 30,216  | 1990              | 1990            | 75          | 2065                      | 431                           |
| SA0189 | John Street        | PVC      | 200                   | 86.00              | 2.69              | B              | 20,315  | 1991              | 1991            | 75          | 2066                      | 283                           |
| SA0191 | John Street        | PVC      | 200                   | 110.00             | 2.94              | B              | 27,953  | 1991              | 1991            | 75          | 2066                      | 390                           |
| SA1357 | Peacock Boulevard  | PVC      | 300                   | 63.00              | 3.37              | C              | 25,102  | 1988              | 1991            | 75          | 2066                      | 350                           |
| SA1359 | Peacock Boulevard  | PVC      | 300                   | 63.40              | 3.00              | B              | 23,044  | 1988              | 1991            | 75          | 2066                      | 321                           |
| SA1361 | Peacock Boulevard  | PVC      | 375                   | 108.50             | 3.00              | B              | 50,229  | 1988              | 1991            | 75          | 2066                      | 701                           |
| SA1363 | Peacock Boulevard  | PVC      | 375                   | 63.10              | 3.00              | B              | 25,966  | 1988              | 1991            | 75          | 2066                      | 362                           |
| SA1365 | Scott Crescent     | PVC      | 200                   | 47.00              | 3.00              | B              | 20,666  | 1988              | 1991            | 75          | 2066                      | 288                           |
| SA1367 | Peacock Boulevard  | PVC      | 375                   | 62.80              | 3.00              | B              | 31,947  | 1988              | 1991            | 75          | 2066                      | 446                           |
| SA1369 | Sanders Drive      | PVC      | 375                   | 79.30              | 3.00              | B              | 34,844  | 1988              | 1991            | 75          | 2066                      | 486                           |
| SA1371 | Peacock Boulevard  | PVC      | 300                   | 22.90              | 3.00              | B              | 11,648  | 1988              | 1991            | 75          | 2066                      | 162                           |
| SA1373 | Sanders Drive      | PVC      | 375                   | 58.50              | 3.00              | B              | 21,706  | 1988              | 1991            | 75          | 2066                      | 303                           |
| SA1379 | Sanders Drive      | PVC      | 200                   | 65.50              | 3.00              | B              | 28,575  | 1988              | 1991            | 75          | 2066                      | 399                           |
| SA1381 | Sanders Drive      | PVC      | 200                   | 29.30              | 3.00              | B              | 11,388  | 1988              | 1991            | 75          | 2066                      | 159                           |
| SA1383 | Sanders Drive      | PVC      | 200                   | 83.80              | 3.00              | B              | 31,902  | 1988              | 1991            | 75          | 2066                      | 445                           |
| SA1385 | Sanders Drive      | PVC      | 200                   | 84.50              | 3.00              | B              | 44,151  | 1988              | 1991            | 75          | 2066                      | 616                           |
| SA1387 | Sanders Drive      | PVC      | 200                   | 37.20              | 3.00              | B              | 9,794   | 1988              | 1991            | 75          | 2066                      | 137                           |
| SA1393 | Peacock Boulevard  | PVC      | 375                   | 52.10              | 3.00              | B              | 15,449  | 1988              | 1991            | 75          | 2066                      | 215                           |
| SA1395 | Peacock Boulevard  | PVC      | 375                   | 31.40              | 3.00              | B              | 14,458  | 1988              | 1991            | 75          | 2066                      | 202                           |
| SA1399 | Peacock Boulevard  | PVC      | 375                   | 68.60              | 3.00              | B              | 31,983  | 1988              | 1991            | 75          | 2066                      | 446                           |
| SA1401 | Peacock Boulevard  | PVC      | 375                   | 68.60              | 3.00              | B              | 31,983  | 1988              | 1991            | 75          | 2066                      | 446                           |
| SA1403 | Peacock Boulevard  | PVC      | 375                   | 24.40              | 3.00              | B              | 6,526   | 1988              | 1991            | 75          | 2066                      | 91                            |
| SA1405 | Peacock Boulevard  | PVC      | 450                   | 28.00              | 3.00              | B              | 10,913  | 1988              | 1991            | 75          | 2066                      | 152                           |
| SA1407 | Peacock Boulevard  | PVC      | 450                   | 38.70              | 3.00              | B              | 18,470  | 1988              | 1991            | 75          | 2066                      | 258                           |
| SA1409 | Peacock Boulevard  | PVC      | 450                   | 56.00              | 3.00              | B              | 21,826  | 1988              | 1991            | 75          | 2066                      | 304                           |
| SA1411 | Peacock Boulevard  | PVC      | 200                   | 60.00              | 3.00              | B              | 21,515  | 1988              | 1991            | 75          | 2066                      | 300                           |
| SA1413 | Peacock Boulevard  | PVC      | 200                   | 60.40              | 3.00              | B              | 24,618  | 1988              | 1991            | 75          | 2066                      | 343                           |
| SA1415 | Peacock Boulevard  | PVC      | 200                   | 85.70              | 3.00              | B              | 33,763  | 1988              | 1991            | 75          | 2066                      | 471                           |
| SA1417 | Peacock Boulevard  | PVC      | 200                   | 41.20              | 3.00              | B              | 12,036  | 1988              | 1991            | 75          | 2066                      | 168                           |
| SA1421 | Peacock Boulevard  | PVC      | 200                   | 30.00              | 3.00              | B              | 20,606  | 1988              | 1991            | 75          | 2066                      | 287                           |
| SA1423 | Peacock Boulevard  | PVC      | 200                   | 35.00              | 3.00              | B              | 7,879   | 1988              | 1991            | 75          | 2066                      | 110                           |
| SA1425 | Peacock Boulevard  | PVC      | 200                   | 52.40              | 3.00              | B              | 17,103  | 1988              | 1991            | 75          | 2066                      | 239                           |
| SA1427 | Peacock Boulevard  | PVC      | 200                   | 51.20              | 3.00              | B              | 22,945  | 1988              | 1991            | 75          | 2066                      | 320                           |
| SA1429 | Peacock Boulevard  | PVC      | 200                   | 38.70              | 3.00              | B              | 11,582  | 1988              | 1991            | 75          | 2066                      | 162                           |
| SA1431 | Peacock Boulevard  | PVC      | 200                   | 80.50              | 3.00              | B              | 32,818  | 1988              | 1991            | 75          | 2066                      | 458                           |
| SA1433 | Peacock Boulevard  | PVC      | 200                   | 80.00              | 3.00              | B              | 37,272  | 1988              | 1991            | 75          | 2066                      | 520                           |
| SA1435 | Peacock Boulevard  | PVC      | 200                   | 107.90             | 3.00              | B              | 40,830  | 1988              | 1991            | 75          | 2066                      | 570                           |
| SA1437 | Peacock Boulevard  | PVC      | 200                   | 87.50              | 3.00              | B              | 29,545  | 1988              | 1991            | 75          | 2066                      | 412                           |
| SA1439 | Peacock Boulevard  | PVC      | 200                   | 88.10              | 3.00              | B              | 38,745  | 1988              | 1991            | 75          | 2066                      | 540                           |
| SA1443 | Peacock Boulevard  | PVC      | 200                   | 86.30              | 3.00              | B              | 29,327  | 1988              | 1991            | 75          | 2066                      | 409                           |
| SA0171 | Harris Street      | PVC      | 200                   | 89.00              | 3.00              | B              | 26,929  | 1992              | 1992            | 75          | 2067                      | 367                           |
| SA0195 | Robertson Street   | PVC      | 200                   | 54.80              | 2.14              | B              | 20,244  | 1992              | 1992            | 75          | 2067                      | 276                           |
| SA0197 | Robertson Street   | PVC      | 200                   | 73.00              | 1.60              | A              | 19,883  | 1992              | 1992            | 75          | 2067                      | 271                           |
| SA0233 | Strachan Street    | CON      | 525                   | 100.30             | 5.70              | E              | 66,758  | 1992              | 1992            | 75          | 2067                      | 911                           |
| SA0235 | Strachan Street    | CON      | 525                   | 99.10              | 5.27              | E              | 62,234  | 1992              | 1992            | 75          | 2067                      | 849                           |

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MUNICIPALITY OF PORT HOPE  
Sewermain Inventory, 2009**

| D      | Road Name/Location | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0261 | Strachan Street    | CON      | 525                   | 86.40              | 4.23              | D              | 54,522  | 1992              | 1992            | 75          | 2067                      | 744                           |
| SA0263 | Strachan Street    | CON      | 525                   | 51.90              | 3.42              | C              | 31,524  | 1992              | 1992            | 75          | 2067                      | 430                           |
| SA0265 | Strachan Street    | CON      | 525                   | 44.70              | 2.88              | B              | 19,585  | 1992              | 1992            | 75          | 2067                      | 267                           |
| SA0267 | Strachan Street    | CON      | 525                   | 25.30              | 2.97              | B              | 13,054  | 1992              | 1992            | 75          | 2067                      | 178                           |
| SA0269 | Strachan Street    | CON      | 525                   | 21.70              | 3.47              | C              | 9,888   | 1992              | 1992            | 75          | 2067                      | 135                           |
| SA0271 | Strachan Street    | CON      | 525                   | 34.00              | 4.06              | D              | 16,033  | 1992              | 1992            | 75          | 2067                      | 219                           |
| SA0273 | Gifford Street     | CON      | 525                   | 28.00              | 5.15              | E              | 13,691  | 1992              | 1992            | 75          | 2067                      | 187                           |
| SA0275 | Gifford Street     | CON      | 525                   | 63.20              | 2.76              | B              | 29,660  | 1992              | 1992            | 75          | 2067                      | 405                           |
| SA0277 | Thomas Street      | CON      | 200                   | 50.00              | 2.40              | B              | 16,955  | 1992              | 1992            | 75          | 2067                      | 231                           |
| SA0279 | Gifford Street     | CON      | 525                   | 62.40              | 2.45              | B              | 29,309  | 1992              | 1992            | 75          | 2067                      | 400                           |
| SA0281 | Gifford Street     | CON      | 525                   | 110.30             | 2.10              | B              | 58,170  | 1992              | 1992            | 75          | 2067                      | 794                           |
| SA0287 | Thomas Street      | CON      | 525                   | 123.30             | 2.39              | B              | 61,898  | 1992              | 1992            | 75          | 2067                      | 844                           |
| SA0291 | Pine Street        | CON      | 200                   | 59.12              | 3.05              | C              | 24,392  | 1992              | 1992            | 75          | 2067                      | 333                           |
| SA0295 | Thomas Street      | CON      | 525                   | 41.20              | 4.09              | D              | 19,428  | 1992              | 1992            | 75          | 2067                      | 265                           |
| SA0297 | Thomas Street      | CON      | 525                   | 38.40              | 4.26              | D              | 20,076  | 1992              | 1992            | 75          | 2067                      | 274                           |
| SA0299 | Thomas Street      | CON      | 525                   | 50.70              | 3.44              | C              | 29,008  | 1992              | 1992            | 75          | 2067                      | 396                           |
| SA0317 | Thomas Street      | CON      | 525                   | 47.50              | 3.38              | C              | 29,519  | 1992              | 1992            | 75          | 2067                      | 403                           |
| SA0319 | Augusta Street     | CON      | 525                   | 41.50              | 3.84              | C              | 18,911  | 1992              | 1992            | 75          | 2067                      | 258                           |
| SA0323 | Queen Street       | CON      | 600                   | 45.80              | 2.67              | B              | 35,944  | 1992              | 1992            | 75          | 2067                      | 490                           |
| SA0333 | Dorset Street E.   | CON      | 250                   | 39.00              | 1.78              | A              | 13,559  | 1992              | 1992            | 75          | 2067                      | 185                           |
| SA0351 | Hayward Street     | CON      | 600                   | 10.00              | 3.80              | C              | 10,019  | 1992              | 1992            | 75          | 2067                      | 137                           |
| SA0785 | Hayward Street     | CON      | 600                   | 65.00              | 4.33              | D              | 72,301  | 1992              | 1992            | 75          | 2067                      | 986                           |
| SA0789 | Queen Street       | CON      | 600                   | 67.00              | 2.74              | B              | 55,373  | 1992              | 1992            | 75          | 2067                      | 755                           |
| SA1071 | Queen Street       | CON      | 600                   | 82.60              | 2.74              | B              | 65,839  | 1992              | 1992            | 75          | 2067                      | 898                           |
| SA1555 | Queen Street       | CON      | 600                   | 102.00             | 2.68              | B              | 80,229  | 1992              | 1992            | 75          | 2067                      | 1,095                         |
| SA1687 | Strachan Street    | CON      | 525                   | 92.70              | 3.60              | C              | 56,021  | 1992              | 1992            | 75          | 2067                      | 764                           |
| SA0611 | Ravine Drive       | PVC      | 200                   | 36.50              | 2.68              | B              | 13,666  | 1988              | 1993            | 75          | 2068                      | 182                           |
| SA1269 | Ravine Drive       | PVC      | 200                   | 50.30              | 2.67              | B              | 21,245  | 1988              | 1993            | 75          | 2068                      | 284                           |
| SA1271 | Ravine Drive       | PVC      | 200                   | 48.80              | 3.67              | C              | 24,288  | 1988              | 1993            | 75          | 2068                      | 324                           |
| SA1273 | Ravine Drive       | PVC      | 200                   | 52.10              | 3.56              | C              | 13,216  | 1988              | 1993            | 75          | 2068                      | 176                           |
| SA1275 | Ravine Drive       | PVC      | 200                   | 35.40              | 2.62              | B              | 9,467   | 1988              | 1993            | 75          | 2068                      | 126                           |
| SA1277 | Ravine Drive       | PVC      | 200                   | 35.00              | 2.82              | B              | 12,424  | 1988              | 1993            | 75          | 2068                      | 166                           |
| SA1279 | Ravine Drive       | PVC      | 200                   | 61.30              | 3.36              | C              | 19,560  | 1988              | 1993            | 75          | 2068                      | 261                           |
| SA1281 | Ravine Drive       | PVC      | 200                   | 50.30              | 3.49              | C              | 14,379  | 1988              | 1993            | 75          | 2068                      | 192                           |
| SA1283 | Ravine Drive       | PVC      | 200                   | 26.50              | 4.16              | D              | 5,543   | 1988              | 1993            | 75          | 2068                      | 74                            |
| SA1285 | Ravine Drive       | PVC      | 200                   | 32.30              | 4.33              | D              | 6,757   | 1988              | 1993            | 75          | 2068                      | 90                            |
| SA1289 | Ravine Drive       | PVC      | 200                   | 33.00              | 4.43              | D              | 9,933   | 1988              | 1993            | 75          | 2068                      | 133                           |
| SA1291 | Ravine Drive       | PVC      | 200                   | 35.70              | 4.27              | D              | 10,498  | 1988              | 1993            | 75          | 2068                      | 140                           |
| SA1293 | Ravine Drive       | PVC      | 200                   | 37.80              | 4.18              | D              | 12,453  | 1988              | 1993            | 75          | 2068                      | 166                           |
| SA1295 | Ravine Drive       | PVC      | 200                   | 37.20              | 4.49              | D              | 12,327  | 1988              | 1993            | 75          | 2068                      | 165                           |
| SA1297 | Ravine Drive       | PVC      | 200                   | 51.80              | 3.77              | C              | 17,703  | 1988              | 1993            | 75          | 2068                      | 236                           |
| SA1299 | Ravine Drive       | PVC      | 200                   | 37.50              | 3.37              | C              | 8,846   | 1988              | 1993            | 75          | 2068                      | 118                           |
| SA1303 | Ravine Drive       | PVC      | 200                   | 30.20              | 3.73              | C              | 8,934   | 1988              | 1993            | 75          | 2068                      | 119                           |
| SA1305 | Herbert Place      | PVC      | 200                   | 52.10              | 3.00              | B              | 17,048  | 1988              | 1993            | 75          | 2068                      | 228                           |
| SA1315 | Gibson Place       | PVC      | 200                   | 46.60              | 3.27              | C              | 16,686  | 1988              | 1993            | 75          | 2068                      | 223                           |
| SA1317 | Lyal Place         | PVC      | 200                   | 58.20              | 3.83              | C              | 18,954  | 1988              | 1993            | 75          | 2068                      | 253                           |
| SA0173 | Pine Street        | PVC      | 200                   | 81.00              | 2.62              | B              | 30,945  | 1994              | 1994            | 75          | 2069                      | 404                           |
| SA1739 | Dorset Street E.   | PVC      | 300                   | 40.00              | 3.62              | C              | 19,114  | 1995              | 1995            | 75          | 2070                      | 244                           |
| SA1741 | Dorset Street E.   | PVC      | 300                   | 39.00              | 2.27              | B              | 12,363  | 1995              | 1995            | 75          | 2070                      | 158                           |
| SA1743 | Rose Glen Road     | PVC      | 300                   | 102.50             | 5.00              | D              | 35,199  | 1995              | 1995            | 75          | 2070                      | 450                           |
| SA1745 | Rose Glen Road     | PVC      | 300                   | 110.00             | 4.92              | D              | 41,712  | 1995              | 1995            | 75          | 2070                      | 533                           |
| SA1747 | Rose Glen Road     | PVC      | 300                   | 100.00             | 4.09              | D              | 40,246  | 1995              | 1995            | 75          | 2070                      | 515                           |
| SA1749 | Rose Glen Road     | PVC      | 250                   | 92.80              | 3.70              | C              | 33,012  | 1995              | 1995            | 75          | 2070                      | 422                           |
| SA1751 | Rose Glen Road     | PVC      | 250                   | 108.20             | 3.64              | C              | 33,574  | 1995              | 1995            | 75          | 2070                      | 429                           |
| SA1753 | Rose Glen Road     | PVC      | 250                   | 105.00             | 3.77              | C              | 30,671  | 1995              | 1995            | 75          | 2070                      | 392                           |
| SA1755 | Rose Glen Road     | PVC      | 200                   | 105.00             | 4.54              | D              | 34,442  | 1995              | 1995            | 75          | 2070                      | 440                           |
| SA1757 | Rose Glen Road     | PVC      | 200                   | 105.00             | 4.22              | D              | 34,442  | 1995              | 1995            | 75          | 2070                      | 440                           |
| SA1771 | Rose Glen Road     | PVC      | 200                   | 10.00              | 3.45              | C              | 2,540   | 1995              | 1995            | 75          | 2070                      | 32                            |
| SA1813 | Rose Glen Road     | PVC      | 200                   | 10.00              | 5.11              | E              | 8,801   | 1995              | 1995            | 75          | 2070                      | 113                           |
| SA1815 | Rose Glen Road     | PVC      | 200                   | 10.00              | 3.95              | C              | 2,540   | 1995              | 1995            | 75          | 2070                      | 32                            |
| SA1975 | Croft Street       | PVC      | 250                   | 9.00               | 3.00              | B              | 2,445   | 1996              | 1996            | 75          | 2071                      | 31                            |
| SA1977 | Croft Street       | PVC      | 250                   | 91.00              | 3.00              | B              | 36,531  | 1996              | 1996            | 75          | 2071                      | 457                           |
| SA1979 | Croft Street       | PVC      | 250                   | 44.00              | 3.00              | B              | 15,890  | 1996              | 1996            | 75          | 2071                      | 199                           |
| SA0175 | Pine Street        | CON      | 200                   | 70.00              | 17.30             | E              | 30,099  | 1997              | 1997            | 75          | 2072                      | 369                           |
| SA0301 | Augusta Street     | PVC      | 200                   | 19.00              | 1.96              | A              | 4,150   | 1997              | 1997            | 75          | 2072                      | 51                            |
| SA0303 | Thomas Street      | PVC      | 200                   | 110.00             | 6.14              | E              | 39,726  | 1997              | 1997            | 75          | 2072                      | 487                           |
| SA0305 | Thomas Street      | PVC      | 200                   | 54.00              | 3.00              | B              | 22,598  | 1997              | 1997            | 75          | 2072                      | 277                           |
| SA0307 | Thomas Street      | PVC      | 200                   | 55.00              | 2.74              | B              | 22,835  | 1997              | 1997            | 75          | 2072                      | 280                           |
| SA0309 | Thomas Street      | PVC      | 200                   | 54.00              | 2.55              | B              | 16,693  | 1997              | 1997            | 75          | 2072                      | 205                           |

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| D      | Road Name/Location            | Material | Conduit Diameter (mm) | Conduit Length (m) | Conduit Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Useful Life | Proposed Replacement Year | Annual Lifecycle Contribution |
|--------|-------------------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA0649 | Croft Street                  | PVC      | 250                   | 126.00             | 4.63              | D              | 57,097  | 1997              | 1997            | 75          | 2072                      | 700                           |
| SA1211 | Croft Street                  | PVC      | 250                   | 14.00              | 4.31              | D              | 4,376   | 1997              | 1997            | 75          | 2072                      | 54                            |
| SA0225 | Victoria Street S.            | PVC      | 200                   | 52.00              | 2.00              | A              | 13,327  | 1998              | 1998            | 75          | 2073                      | 160                           |
| SA0227 | Victoria Street S.            | PVC      | 200                   | 62.00              | 1.88              | A              | 19,449  | 1998              | 1998            | 75          | 2073                      | 234                           |
| SA1859 | Trefusis Street Easement      | PVC      | 150                   | 42.10              | 3.00              | B              | 18,821  | 1998              | 1998            | 75          | 2073                      | 226                           |
| SA1861 | Trefusis Street Easement      | PVC      | 200                   | 41.70              | 3.17              | C              | 15,728  | 1998              | 1998            | 75          | 2073                      | 189                           |
| SA1967 | Clifton Road                  | PVC      | 200                   | 56.00              | 3.00              | B              | 13,212  | 1999              | 1999            | 75          | 2074                      | 156                           |
| SA1969 | Clifton Road                  | PVC      | 200                   | 110.00             | 3.00              | B              | 26,060  | 1999              | 1999            | 75          | 2074                      | 307                           |
| SA1971 | Clifton Road                  | PVC      | 200                   | 110.00             | 3.00              | B              | 23,030  | 1999              | 1999            | 75          | 2074                      | 271                           |
| SA1973 | Clifton Road                  | PVC      | 200                   | 78.50              | 3.00              | B              | 14,272  | 1999              | 1999            | 75          | 2074                      | 168                           |
| SA0001 | Mill Street Pump House        | CON      | 600                   | 11.47              | 4.77              | D              | 8,033   | 2000              | 2000            | 75          | 2075                      | 93                            |
| SA0409 | Easement                      | CON      | 600                   | 10.00              | 2.50              | B              | 7,550   | 2000              | 2000            | 75          | 2075                      | 87                            |
| SA0411 | Easement                      | CON      | 600                   | 48.00              | 2.07              | B              | 32,623  | 2000              | 2000            | 75          | 2075                      | 376                           |
| SA1887 | Armour Street                 | CON      | 200                   | 5.72               | 3.00              | B              | 1,489   | 2000              | 2000            | 75          | 2075                      | 17                            |
| SA2013 | Ward Street                   | CON      | 150                   | 10.00              | 1.16              | A              | 2,318   | 2000              | 2000            | 75          | 2075                      | 27                            |
| SA0239 | Brimley Street                | PVC      | 200                   | 89.90              | 2.81              | B              | 31,079  | 2004              | 2004            | 75          | 2079                      | 332                           |
| SA0795 | McCaul Street                 | PVC      | 200                   | 70.00              | 2.58              | B              | 24,409  | 2004              | 2004            | 75          | 2079                      | 261                           |
| SA0797 | McCaul Street                 | PVC      | 200                   | 68.30              | 1.95              | A              | 24,762  | 2004              | 2004            | 75          | 2079                      | 264                           |
| SA1787 | Brimley Street                | PVC      | 200                   | 30.68              | 2.55              | B              | 11,184  | 2004              | 2004            | 75          | 2079                      | 119                           |
| SA0873 | Elgin Street                  | PVC      | 200                   | 120.50             | 2.21              | B              | 42,244  | 2006              | 2006            | 75          | 2081                      | 434                           |
| SA0875 | Elgin Street                  | PVC      | 200                   | 71.90              | 2.40              | B              | 32,732  | 2006              | 2006            | 75          | 2081                      | 336                           |
| SA0877 | Elgin Street                  | PVC      | 200                   | 100.00             | 2.37              | B              | 37,402  | 2006              | 2006            | 75          | 2081                      | 384                           |
| SA0879 | Elgin Street                  | PVC      | 200                   | 93.10              | 2.71              | B              | 41,677  | 2006              | 2006            | 75          | 2081                      | 428                           |
| SA2029 | Little's Creek Farm           | PVC      | 300                   | 72.80              | 4.40              | D              | 19,242  | 2006              | 2006            | 75          | 2081                      | 198                           |
| SA2031 | Little's Creek Farm           | PVC      | 450                   | 33.90              | 2.08              | B              | 9,544   | 2006              | 2006            | 75          | 2081                      | 98                            |
| SA2033 | Little's Creek Farm           | PVC      | 450                   | 35.40              | 1.33              | A              | 11,599  | 2006              | 2006            | 75          | 2081                      | 119                           |
| SA2035 | Little's Creek Farm           | PVC      | 450                   | 90.00              | 1.42              | A              | 22,698  | 2006              | 2006            | 75          | 2081                      | 233                           |
| SA2037 | Little's Creek Farm           | PVC      | 450                   | 32.00              | 1.46              | A              | 8,070   | 2006              | 2006            | 75          | 2081                      | 83                            |
| SA2039 | Little's Creek Farm           | PVC      | 450                   | 72.50              | 3.84              | C              | 21,261  | 2006              | 2006            | 75          | 2081                      | 219                           |
| SA2041 | Little's Creek Farm           | PVC      | 450                   | 30.60              | 6.12              | E              | 9,691   | 2006              | 2006            | 75          | 2081                      | 100                           |
| SA2085 | West Servicing Easement       | PVC      | 200                   | 61.00              | 3.88              | C              | 11,926  | 2006              | 2006            | 75          | 2081                      | 123                           |
| SA2087 | West Servicing Easement       | PVC      | 200                   | 40.50              | 4.50              | D              | 8,472   | 2006              | 2006            | 75          | 2081                      | 87                            |
| SA2089 | West Servicing Easement       | PVC      | 450                   | 93.80              | 3.42              | C              | 27,507  | 2006              | 2006            | 75          | 2081                      | 283                           |
| SA2091 | West Servicing EasementWest S | PVC      | 450                   | 93.40              | 3.32              | C              | 27,390  | 2006              | 2006            | 75          | 2081                      | 281                           |
| SA2093 | West Servicing Easement       | PVC      | 450                   | 21.50              | 3.32              | C              | 6,305   | 2006              | 2006            | 75          | 2081                      | 65                            |
| SA2095 | South Servicing Easement      | PVC      | 375                   | 90.00              | 3.34              | C              | 25,073  | 2006              | 2006            | 75          | 2081                      | 258                           |
| SA2097 | South Servicing Easement      | PVC      | 375                   | 89.00              | 4.19              | D              | 25,786  | 2006              | 2006            | 75          | 2081                      | 265                           |
| SA2099 | South Servicing Easement      | PVC      | 250                   | 108.10             | 4.49              | D              | 26,005  | 2006              | 2006            | 75          | 2081                      | 267                           |
| SA2101 | South Servicing Easement      | PVC      | 250                   | 100.00             | 4.27              | D              | 24,056  | 2006              | 2006            | 75          | 2081                      | 247                           |
| SA2103 | South Servicing Easement      | PVC      | 250                   | 44.40              | 4.12              | D              | 10,681  | 2006              | 2006            | 75          | 2081                      | 110                           |
| SA2105 | South Servicing Easement      | PVC      | 250                   | 48.60              | 4.32              | D              | 11,691  | 2006              | 2006            | 75          | 2081                      | 120                           |
| SA2107 | South Servicing Easement      | PVC      | 250                   | 88.10              | 4.25              | D              | 21,194  | 2006              | 2006            | 75          | 2081                      | 218                           |
| SA2109 | South Servicing Easement      | PVC      | 250                   | 69.00              | 4.00              | C              | 15,513  | 2006              | 2006            | 75          | 2081                      | 159                           |
| SA2111 | South Servicing Easement      | PVC      | 250                   | 40.00              | 3.81              | C              | 8,993   | 2006              | 2006            | 75          | 2081                      | 92                            |
| SA2113 | Street 'B'                    | PVC      | 250                   | 78.80              | 3.77              | C              | 17,716  | 2006              | 2006            | 75          | 2081                      | 182                           |
| SA2115 | Street 'C'                    | PVC      | 200                   | 70.00              | 3.47              | C              | 13,685  | 2006              | 2006            | 75          | 2081                      | 141                           |
| SA2117 | Street 'C'                    | PVC      | 200                   | 70.00              | 3.22              | C              | 13,685  | 2006              | 2006            | 75          | 2081                      | 141                           |
| SA2119 | Street 'C'                    | PVC      | 200                   | 69.80              | 3.20              | C              | 15,161  | 2006              | 2006            | 75          | 2081                      | 156                           |
| SA2121 | Lakeshore Road                | PVC      | 450                   | 76.20              | 4.12              | D              | 23,239  | 2006              | 2006            | 75          | 2081                      | 239                           |
| SA2123 | Lakeshore Road                | PVC      | 450                   | 46.10              | 4.57              | D              | 14,060  | 2006              | 2006            | 75          | 2081                      | 144                           |
| SA2125 | Lakeshore Road                | PVC      | 450                   | 90.00              | 4.69              | D              | 27,448  | 2006              | 2006            | 75          | 2081                      | 282                           |
| SA2127 | Lakeshore Road                | PVC      | 250                   | 90.00              | 3.91              | C              | 20,234  | 2006              | 2006            | 75          | 2081                      | 208                           |
| SA2129 | Lakeshore Road                | PVC      | 250                   | 90.00              | 3.00              | B              | 18,818  | 2006              | 2006            | 75          | 2081                      | 193                           |
| SA2131 | Lakeshore Road                | PVC      | 250                   | 90.00              | 3.14              | C              | 20,234  | 2006              | 2006            | 75          | 2081                      | 208                           |
| SA2133 | Lakeshore Road                | PVC      | 250                   | 79.00              | 2.99              | B              | 18,033  | 2006              | 2006            | 75          | 2081                      | 185                           |
| SA2135 | AON Overland Flow Route       | PVC      | 200                   | 90.80              | 4.06              | D              | 18,994  | 2006              | 2006            | 75          | 2081                      | 195                           |
| SA2137 | AON Overland Flow Route       | PVC      | 200                   | 65.80              | 4.70              | D              | 13,764  | 2006              | 2006            | 75          | 2081                      | 141                           |
| SA2139 | AON Overland Flow Route       | PVC      | 200                   | 59.10              | 4.16              | D              | 12,363  | 2006              | 2006            | 75          | 2081                      | 127                           |
| SA2141 | Little's Creek Farm           | PVC      | 300                   | 72.70              | 3.99              | C              | 18,477  | 2006              | 2006            | 75          | 2081                      | 190                           |
| SA2145 | West Servicing Easement       | PVC      | 525                   | 3.00               | 3.37              | C              | 1,026   | 2006              | 2006            | 75          | 2081                      | 11                            |
| SA0793 | Elgin Street                  | PVC      | 200                   | 69.10              | 3.18              | C              | 21,488  | 2007              | 2007            | 75          | 2082                      | 217                           |
| SA0799 | Elgin Street                  | PVC      | 200                   | 121.00             | 2.28              | B              | 34,488  | 2007              | 2007            | 75          | 2082                      | 348                           |
| SA1841 | Trefusis Street               | PVC      | 200                   | 67.70              | 3.14              | C              | 32,932  | 1998              | 2007            | 75          | 2082                      | 332                           |
| SA1843 | Trefusis Street               | PVC      | 200                   | 64.20              | 3.34              | C              | 36,793  | 1998              | 2007            | 75          | 2082                      | 371                           |
| SA1845 | Trefusis Street               | PVC      | 200                   | 24.00              | 3.54              | C              | 12,268  | 1998              | 2007            | 75          | 2082                      | 124                           |
| SA1847 | Trefusis Street               | PVC      | 200                   | 78.30              | 3.50              | C              | 22,883  | 1998              | 2007            | 75          | 2082                      | 231                           |
| SA1849 | Trefusis Street               | PVC      | 200                   | 17.80              | 2.56              | B              | 9,297   | 1998              | 2007            | 75          | 2082                      | 94                            |
| SA1851 | Trefusis Street               | PVC      | 200                   | 25.50              | 2.85              | B              | 4,636   | 1998              | 2007            | 75          | 2082                      | 47                            |
| SA1853 | Trefusis Street               | PVC      | 200                   | 20.50              | 3.00              | B              | 3,727   | 1998              | 2007            | 75          | 2082                      | 38                            |

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|--------|--------------------|----------|-----------------------|--------------------|-------------------|----------------|---|-------------------|-----------------|-------------|---------------------------|-------------------------------|
| SA1855 | Trefusis Street    | PVC      | 200                   | 41.60              | 2.43              | B              | 9,079   | 1998              | 2007            | 75          | 2082                      | 92                            |
| SA1857 | Chalmers Ct.       | PVC      | 200                   | 78.60              | 3.20              | C              | 29,002  | 1998              | 2007            | 75          | 2082                      | 293                           |
| SA1863 | Trefusis Street    | PVC      | 200                   | 38.30              | 1.97              | A              | 10,335  | 1998              | 2007            | 75          | 2082                      | 104                           |
| SA1865 | Trefusis Street    | PVC      | 200                   | 37.50              | 3.32              | C              | 13,392  | 1998              | 2007            | 75          | 2082                      | 135                           |
| SA1867 | Trefusis Street    | PVC      | 200                   | 64.20              | 2.83              | B              | 23,794  | 1998              | 2007            | 75          | 2082                      | 240                           |
| SA1869 | Spicer Street      | PVC      | 200                   | 47.95              | 3.00              | B              | 16,294  | 1999              | 2008            | 75          | 2083                      | 161                           |
| SA1871 | Spicer Street      | PVC      | 200                   | 82.78              | 3.00              | B              | 27,172  | 1999              | 2008            | 75          | 2083                      | 269                           |
| SA1873 | Spicer Street      | PVC      | 200                   | 61.61              | 3.00              | B              | 20,292  | 1999              | 2008            | 75          | 2083                      | 201                           |
| SA1875 | Spicer Street      | PVC      | 200                   | 69.49              | 3.00              | B              | 20,210  | 1999              | 2008            | 75          | 2083                      | 200                           |
| SA1877 | Spicer Street      | PVC      | 200                   | 69.64              | 3.00              | B              | 32,358  | 1999              | 2008            | 75          | 2083                      | 320                           |
| SA1879 | Klein Street       | PVC      | 200                   | 54.44              | 3.00              | B              | 17,474  | 1999              | 2008            | 75          | 2083                      | 173                           |
| SA1881 | Klein Street       | PVC      | 200                   | 38.20              | 3.00              | B              | 9,976   | 1999              | 2008            | 75          | 2083                      | 99                            |
| SA1883 | Klein Street       | PVC      | 200                   | 62.94              | 3.00              | B              | 23,564  | 1999              | 2008            | 75          | 2083                      | 233                           |
| SA1885 | Klein Street       | PVC      | 200                   | 69.65              | 3.00              | B              | 20,239  | 1999              | 2008            | 75          | 2083                      | 200                           |
| SA1891 | Ramsey Road        | PVC      | 200                   | 108.36             | 3.00              | B              | 36,368  | 1999              | 2008            | 75          | 2083                      | 360                           |
| SA1893 | Jeffries Street    | PVC      | 200                   | 68.69              | 3.00              | B              | 26,125  | 1999              | 2008            | 75          | 2083                      | 259                           |
| SA1895 | Jeffries Street    | PVC      | 200                   | 36.30              | 3.00              | B              | 12,660  | 1999              | 2008            | 75          | 2083                      | 125                           |
| SA1897 | Jeffries Street    | PVC      | 200                   | 11.91              | 3.00              | B              | 6,711   | 1999              | 2008            | 75          | 2083                      | 66                            |
| SA1899 | Jeffries Street    | PVC      | 200                   | 79.26              | 3.00              | B              | 29,562  | 1999              | 2008            | 75          | 2083                      | 293                           |
| SA1901 | Ramsey Road        | PVC      | 200                   | 108.25             | 3.00              | B              | 37,863  | 1999              | 2008            | 75          | 2083                      | 375                           |
| SA1903 | Rapley Boulevard   | PVC      | 200                   | 39.93              | 3.00              | B              | 7,260   | 1999              | 2008            | 75          | 2083                      | 72                            |
| SA1905 | Rapley Boulevard   | PVC      | 300                   | 15.91              | 3.00              | B              | 3,882   | 1999              | 2008            | 75          | 2083                      | 38                            |
| SA1907 | Rapley Boulevard   | PVC      | 300                   | 35.48              | 3.00              | B              | 10,172  | 1999              | 2008            | 75          | 2083                      | 101                           |
| SA1909 | Rapley Boulevard   | PVC      | 250                   | 52.19              | 3.00              | B              | 12,427  | 1999              | 2008            | 75          | 2083                      | 123                           |
| SA1911 | Jeffries Street    | PVC      | 200                   | 105.00             | 3.00              | B              | 34,242  | 1999              | 2008            | 75          | 2083                      | 339                           |
| SA1913 | Rapley Boulevard   | PVC      | 200                   | 84.75              | 3.00              | B              | 22,984  | 1999              | 2008            | 75          | 2083                      | 228                           |
| SA1915 | Huffman Avenue     | PVC      | 200                   | 42.85              | 3.00              | B              | 10,821  | 1999              | 2008            | 75          | 2083                      | 107                           |
| SA1917 | Huffman Avenue     | PVC      | 200                   | 85.32              | 3.00              | B              | 32,179  | 1999              | 2008            | 75          | 2083                      | 319                           |
| SA1919 | Huffman Avenue     | PVC      | 200                   | 80.53              | 3.00              | B              | 31,308  | 1999              | 2008            | 75          | 2083                      | 310                           |
| SA1921 | Huffman Avenue     | PVC      | 200                   | 7.96               | 3.00              | B              | 2,962   | 1999              | 2008            | 75          | 2083                      | 29                            |
| SA1923 | Huffman Avenue     | PVC      | 200                   | 73.67              | 3.00              | B              | 31,576  | 1999              | 2008            | 75          | 2083                      | 313                           |
| SA1925 | Huffman Avenue     | PVC      | 200                   | 10.79              | 3.00              | B              | 4,992   | 1999              | 2008            | 75          | 2083                      | 49                            |
| SA1927 | Huffman Avenue     | PVC      | 200                   | 30.43              | 3.00              | B              | 8,563   | 1999              | 2008            | 75          | 2083                      | 85                            |
| SA1929 | Huffman Avenue     | PVC      | 200                   | 91.96              | 3.00              | B              | 31,871  | 1999              | 2008            | 75          | 2083                      | 316                           |
| SA1931 | Jarvis Drive       | PVC      | 200                   | 74.76              | 3.00              | B              | 25,713  | 1999              | 2008            | 75          | 2083                      | 255                           |
| SA1933 | Jarvis Drive       | PVC      | 200                   | 15.79              | 3.00              | B              | 7,416   | 1999              | 2008            | 75          | 2083                      | 73                            |
| SA1935 | Jarvis Drive       | PVC      | 200                   | 108.91             | 3.00              | B              | 42,528  | 1999              | 2008            | 75          | 2083                      | 421                           |
| SA1937 | Jarvis Drive       | PVC      | 200                   | 72.57              | 3.00              | B              | 32,891  | 1999              | 2008            | 75          | 2083                      | 326                           |
| SA1939 | Jarvis Drive       | PVC      | 200                   | 15.54              | 3.00              | B              | 5,856   | 1999              | 2008            | 75          | 2083                      | 58                            |
| SA1941 | Jarvis Drive       | PVC      | 200                   | 20.87              | 3.00              | B              | 5,310   | 1999              | 2008            | 75          | 2083                      | 53                            |
| SA1943 | Jarvis Drive       | PVC      | 200                   | 93.37              | 3.00              | B              | 38,188  | 1999              | 2008            | 75          | 2083                      | 378                           |
| SA1945 | Jarvis Drive       | PVC      | 200                   | 93.04              | 3.00              | B              | 33,582  | 1999              | 2008            | 75          | 2083                      | 333                           |
| SA1947 | Huffman Avenue     | PVC      | 200                   | 90.00              | 3.00              | B              | 26,969  | 1999              | 2008            | 75          | 2083                      | 267                           |
| SA1949 | Rapley Boulevard   | PVC      | 200                   | 90.50              | 3.00              | B              | 17,969  | 1999              | 2008            | 75          | 2083                      | 178                           |
| SA1951 | Rapley Boulevard   | PVC      | 200                   | 109.81             | 3.00              | B              | 30,571  | 1999              | 2008            | 75          | 2083                      | 303                           |
| SA1955 | Rapley Boulevard   | PVC      | 200                   | 65.43              | 3.00              | B              | 19,472  | 1999              | 2008            | 75          | 2083                      | 193                           |
| SA1957 | Rapley Boulevard   | PVC      | 200                   | 102.98             | 3.00              | B              | 32,359  | 1999              | 2008            | 75          | 2083                      | 321                           |
| SA1959 | Rapley Boulevard   | PVC      | 200                   | 61.99              | 3.00              | B              | 21,877  | 1999              | 2008            | 75          | 2083                      | 217                           |
| SA1961 | Rapley Boulevard   | PVC      | 200                   | 62.45              | 3.00              | B              | 20,445  | 1999              | 2008            | 75          | 2083                      | 203                           |
| SA1963 | Jeffries Street    | PVC      | 200                   | 39.41              | 3.00              | B              | 8,680   | 1999              | 2008            | 75          | 2083                      | 86                            |
| SA1965 | Jarvis Drive       | PVC      | 200                   | 8.00               | 3.00              | B              | 2,970   | 1999              | 2008            | 75          | 2083                      | 29                            |
| SA2027 | Rapley Boulevard   | PVC      | 300                   | 54.60              | 5.66              | E              | 15,125  | 2006              | 2008            | 75          | 2083                      | 150                           |
|        |                    |          |                       | 69,252.91          |                   |                | 28,774,761.43                                 |                   |                 |             |                           | 397,359                       |

**TABLE A-4**  
**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name        | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|--------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 19   | North Street       | M     |         | SANMH          | 1,200                     | 2.42      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 20   | North Street       | M     |         | SANMH          | 1,200                     | 0.70      | A              | 4,509   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 21   | North Street       | M     |         | SANMH          | 1,200                     | 2.70      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 22   | North Street       | M     |         | SANMH          | 1,200                     | 2.63      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 23   | Bruton Lane        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 98   | Bruton Street      | M     |         | SANMH          | 1,200                     | 2.29      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 99   | Julia Street       | M     |         | SANMH          | 1,200                     | 1.78      | A              | 4,509   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 23A  | Bruton Lane        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 23B  | Bruton Lane        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 98A  | Bruton Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1901              | 1901            | 1981                      | Cap. Forecast                 |
| 118  | Ridout Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1903              | 1903            | 1983                      | Cap. Forecast                 |
| 120  | Ridout Street      | M     |         | SANMH          | 1,200                     | 1.27      | A              | 4,509   | 1903              | 1903            | 1983                      | Cap. Forecast                 |
| 121  | Ridout Street      | M     |         | SANMH          | 1,200                     | 2.39      | B              | 4,636   | 1903              | 1903            | 1983                      | Cap. Forecast                 |
| 122  | Ridout Street      | M     |         | SANMH          | 1,200                     | 3.83      | C              | 4,763   | 1903              | 1903            | 1983                      | Cap. Forecast                 |
| 120A | Ridout Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1903              | 1903            | 1983                      | Cap. Forecast                 |
| 125  | Church Street      | M     |         | SANMH          | 1,200                     | 3.74      | C              | 4,763   | 1904              | 1904            | 1984                      | Cap. Forecast                 |
| 588  | Baldwin Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1904              | 1904            | 1984                      | Cap. Forecast                 |
| 124A | Church Street      | M     |         | SANMH          | 1,200                     | 2.11      | B              | 4,636   | 1904              | 1904            | 1984                      | Cap. Forecast                 |
| 231  | Mill Street        | M     |         | SANMH          | 1,200                     | 1.73      | A              | 4,509   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 232  | Mill Street        | M     |         | SANMH          | 1,200                     | 2.48      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 233  | Ontario Street     | M     |         | SANMH          | 1,200                     | 3.44      | C              | 4,763   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 279  | Ontario Street     | M     |         | SANMH          | 1,200                     | 2.78      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 281  | Ellen Street       | M     |         | SANMH          | 1,200                     | 2.57      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 282  | Ontario Street     | M     |         | SANMH          | 1,200                     | 3.25      | C              | 4,763   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 286  | Bloomsgrove Avenue | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 287  | Bloomsgrove Avenue | M     |         | SANMH          | 1,200                     | 2.93      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 288  | Bloomsgrove Avenue | M     |         | SANMH          | 1,200                     | 2.65      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 289  | Bloomsgrove Avenue | M     |         | SANMH          | 1,200                     | 2.17      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 279A | Ellen Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 279B | Ellen Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 282A | Ontario Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1906              | 1906            | 1986                      | Cap. Forecast                 |
| 109  | Bedford Street     | M     |         | SANMH          | 1,200                     | 2.33      | B              | 4,636   | 1910              | 1910            | 1990                      | Cap. Forecast                 |
| 110  | Bedford Street     | M     |         | SANMH          | 1,200                     | 2.70      | B              | 4,636   | 1910              | 1910            | 1990                      | Cap. Forecast                 |
| 111  | Bedford Street     | M     |         | SANMH          | 1,200                     | 2.90      | B              | 4,636   | 1910              | 1910            | 1990                      | Cap. Forecast                 |
| 106A | Bedford Street     | M     |         | SANMH          | 1,200                     | 2.08      | B              | 4,636   | 1910              | 1910            | 1990                      | Cap. Forecast                 |
| 111A | Bedford Street     | M     |         | SANMH          | 1,200                     | 2.68      | B              | 4,636   | 1910              | 1910            | 1990                      | Cap. Forecast                 |
| 234  | Martha Street      | M     |         | SANMH          | 1,200                     | 3.02      | C              | 4,763   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 235  | Martha Street      | M     |         | SANMH          | 1,200                     | 3.29      | C              | 4,763   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 236  | Martha Street      | M     |         | SANMH          | 1,200                     | 3.21      | C              | 4,763   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 267  | Margaret Street    | M     |         | SANMH          | 1,200                     | 2.04      | B              | 4,636   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 122A | Julia Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 122B | Julia Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 234A | Ellen Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 234B | Ellen Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 235A | Margaret Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1912              | 1912            | 1992                      | Cap. Forecast                 |
| 196  | Alexander Street   | M     |         | SANMH          | 1,200                     | 2.51      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 197  | Alexander Street   | M     |         | SANMH          | 1,200                     | 3.09      | C              | 4,763   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 198  | Alexander Street   | M     |         | SANMH          | 1,200                     | 2.56      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 199  | Alexander Street   | M     |         | SANMH          | 1,200                     | 3.63      | C              | 4,763   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 280  | Hope Street        | M     |         | SANMH          | 1,200                     | 2.62      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 281  | Hope Street        | M     |         | SANMH          | 1,200                     | 2.57      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 285  | Hope Street        | M     |         | SANMH          | 1,200                     | 2.10      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 309  | William Street     | M     |         | SANMH          | 1,200                     | 2.11      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 337  | William Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 309A | William Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 439A | Smith Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1913              | 1913            | 1993                      | Cap. Forecast                 |
| 141  | Dorset Street W.   | M     |         | SANMH          | 1,200                     | 2.37      | B              | 4,636   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 142  | Dorset Street W.   | M     |         | SANMH          | 1,200                     | 1.68      | A              | 4,509   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 143  | Dorset Street W.   | M     |         | SANMH          | 1,200                     | 1.57      | A              | 4,509   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 144  | Dorset Street W.   | M     |         | SANMH          | 1,200                     | 1.54      | A              | 4,509   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 145  | Dorset Street W.   | M     |         | SANMH          | 1,200                     | 2.28      | B              | 4,636   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 310  | Ward Street        | M     |         | SANMH          | 1,200                     | 2.25      | B              | 4,636   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 311  | Armour Street      | M     |         | SANMH          | 1,200                     | 1.69      | A              | 4,509   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 312  | Ward Street        | M     |         | SANMH          | 1,200                     | 4.55      | D              | 5,080   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 360  | King Street        | M     |         | SANMH          | 1,200                     | 1.69      | A              | 4,509   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 361  | King Street        | M     |         | SANMH          | 1,200                     | 3.31      | C              | 4,763   | 1915              | 1915            | 1995                      | Cap. Forecast                 |

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**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name          | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|----------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 141A | Dorset Street W.     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1915              | 1915            | 1995                      | Cap. Forecast                 |
| 341  | King Street          | M     |         | SANMH          | 1,200                     | 3.09      | C              | 4,763   | 1916              | 1916            | 1996                      | Cap. Forecast                 |
| 342  | King Street          | M     |         | SANMH          | 1,200                     | 2.22      | B              | 4,636   | 1916              | 1916            | 1996                      | Cap. Forecast                 |
| 343  | King Street          | M     |         | SANMH          | 1,200                     | 2.69      | B              | 4,636   | 1916              | 1916            | 1996                      | Cap. Forecast                 |
| 344  | King Street          | M     |         | SANMH          | 1,200                     | 4.02      | D              | 5,080   | 1916              | 1916            | 1996                      | Cap. Forecast                 |
| 345  | King Street          | M     |         | SANMH          | 1,200                     | 2.85      | B              | 4,636   | 1916              | 1916            | 1996                      | Cap. Forecast                 |
| 341A | King Street          | M     |         | SANMH          | 1,200                     | 2.84      | B              | 4,636   | 1916              | 1916            | 1996                      | Cap. Forecast                 |
| 318  | Princess Street      | M     |         | SANMH          | 1,200                     | 1.62      | A              | 4,509   | 1919              | 1919            | 1999                      | Cap. Forecast                 |
| 319  | Princess Street      | M     |         | SANMH          | 1,200                     | 1.46      | A              | 4,509   | 1919              | 1919            | 1999                      | Cap. Forecast                 |
| 318A | Princess Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1919              | 1919            | 1999                      | Cap. Forecast                 |
| 318B | Princess Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1919              | 1919            | 1999                      | Cap. Forecast                 |
| 97   | Bruton Street        | M     |         | SANMH          | 1,200                     | 1.46      | A              | 4,509   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 146  | Robertson Street     | M     |         | SANMH          | 1,200                     | 1.50      | A              | 4,509   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 147  | John Street          | M     |         | SANMH          | 1,200                     | 1.42      | A              | 4,509   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 148  | John Street          | M     |         | SANMH          | 1,200                     | 2.38      | B              | 4,636   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 149  | Park Street          | M     |         | SANMH          | 1,200                     | 3.03      | C              | 4,763   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 151  | John Street          | M     |         | SANMH          | 1,200                     | 0.97      | A              | 4,509   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 97A  | Bruton Street        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 97B  | Bruton Street        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1920              | 1920            | 2000                      | Cap. Forecast                 |
| 275  | Ontario Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 276  | Ontario Street       | M     |         | SANMH          | 1,200                     | 2.72      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 277  | Ontario Street       | M     |         | SANMH          | 1,200                     | 2.57      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 278  | Ontario Street       | M     |         | SANMH          | 1,200                     | 1.84      | A              | 4,509   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 286  | Hope Street          | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 293  | Hope Street N.       | M     |         | SANMH          | 1,200                     | 1.87      | A              | 4,509   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 294  | Harcourt Street      | M     |         | SANMH          | 1,200                     | 1.69      | A              | 4,509   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 295  | Harcourt Street      | M     |         | SANMH          | 1,200                     | 2.32      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 336  | Dorset Street E.     | M     |         | SANMH          | 1,200                     | 4.29      | D              | 5,080   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 340  | Dorset Street E.     | M     |         | SANMH          | 1,200                     | 4.69      | D              | 5,080   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 523  | Dorset Street E.     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 294A | Harcourt Street      | M     |         | SANMH          | 1,200                     | 2.76      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 295A | Harcourt Street      | M     |         | SANMH          | 1,200                     | 2.77      | B              | 4,636   | 1922              | 1922            | 2002                      | Cap. Forecast                 |
| 283  | College Street       | M     |         | SANMH          | 1,200                     | 1.97      | A              | 4,509   | 1923              | 1923            | 2003                      | Cap. Forecast                 |
| 284  | College Street       | M     |         | SANMH          | 1,200                     | 2.93      | B              | 4,636   | 1923              | 1923            | 2003                      | Cap. Forecast                 |
| 16   | Cavan Street         | M     |         | SANMH          | 1,200                     | 1.94      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 17   | Cavan Street         | M     |         | SANMH          | 1,200                     | 1.64      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 18   | Cavan Street         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 25   | Julia Street         | M     |         | SANMH          | 1,200                     | 1.89      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 27   | Charles Street       | M     |         | SANMH          | 1,200                     | 1.30      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 94   | Charles Street       | M     |         | SANMH          | 1,200                     | 1.72      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 106  | Cavan Street         | M     |         | SANMH          | 1,200                     | 1.93      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 107  | Cavan Street         | M     |         | SANMH          | 1,200                     | 1.46      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 108  | Cavan Street         | M     |         | SANMH          | 1,200                     | 1.31      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 112  | Cavan Street         | M     |         | SANMH          | 1,200                     | 2.14      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 113  | Cavan Street         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 133  | Cavan Street         | M     |         | SANMH          | 1,200                     | 1.04      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 160  | Sullivan Street      | M     |         | SANMH          | 1,200                     | 2.59      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 164  | Sherbourne Street    | M     |         | SANMH          | 1,200                     | 1.69      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 168  | Durham Street        | M     |         | SANMH          | 1,200                     | 2.38      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 169  | Durham Street        | M     |         | SANMH          | 1,200                     | 0.90      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 172  | Sullivan Street      | M     |         | SANMH          | 1,200                     | 4.74      | D              | 5,080   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 173  | Little Hope Steet    | M     |         | SANMH          | 1,200                     | 2.21      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 331  | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 1.66      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 332  | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 1.42      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 333  | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 1.68      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 334  | Dorset Street E.     | M     |         | SANMH          | 1,200                     | 2.58      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 531  | Easment              | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 590  | Charles Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 164A | Sherbourne Street    | M     |         | SANMH          | 1,200                     | 1.24      | A              | 4,509   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 172A | Sullivan Street      | M     |         | SANMH          | 1,200                     | 2.57      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 333A | Dorset Street E.     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1925              | 1925            | 2005                      | Cap. Forecast                 |
| 104  | Seymour Street       | M     |         | SANMH          | 1,200                     | 2.20      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 105  | Seymour Street       | M     |         | SANMH          | 1,200                     | 2.91      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 296  | Easement             | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 313  | Ward Street          | M     |         | SANMH          | 1,200                     | 6.30      | E              | 6,350   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 314  | Ward Street          | M     |         | SANMH          | 1,200                     | 6.59      | E              | 6,350   | 1929              | 1929            | 2009                      | Cap. Forecast                 |

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**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name     | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|-----------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 315  | Ward Street     | M     |         | SANMH          | 1,200                     | 2.05      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 317  | Ward Street     | M     |         | SANMH          | 1,200                     | 2.39      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 321  | Ward Street     | M     |         | SANMH          | 1,200                     | 2.10      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 322  | Ward Street     | M     |         | SANMH          | 1,200                     | 1.13      | A              | 4,509   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 323  | Mill Street     | M     |         | SANMH          | 1,200                     | 1.05      | A              | 4,509   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 324  | Mill Street     | M     |         | SANMH          | 1,200                     | 2.61      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 442  | Ward Street     | M     |         | SANMH          | 1,200                     | 2.18      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 296A | Easement        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 296B | Easement        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 317A | Ward Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 322A | Ward Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1929              | 1929            | 2009                      | Cap. Forecast                 |
| 26   |                 | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 103  | Pine Street     | M     |         | SANMH          | 1,200                     | 2.70      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 188  |                 | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 190  | Easement        | M     |         | SANMH          | 1,200                     | 1.47      | A              | 4,509   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 225  |                 | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 304  | Hope Street     | M     |         | SANMH          | 1,200                     | 2.07      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 335  | Hope Street     | M     |         | SANMH          | 1,200                     | 2.61      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 425  | Easement        | M     |         | SANMH          | 1,200                     | 2.85      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 441  |                 | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 514  | Chestnut Hill   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 515  | Craig Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 930  | Easement        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 107A | Craig Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 107B | Craig Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 15B  | South Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 15C  | South Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 190A | Easement        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 267B |                 | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 294B | Hope Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 294B | Hope Street N.  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 304A | Hope Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 304B | Hope Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 334A | Hope Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 334B | Hope Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1930              | 1930            | 2010                      | Cap. Forecast                 |
| 327  | Elgin Street    | M     |         | SANMH          | 1,200                     | 2.42      | B              | 4,636   | 1935              | 1935            | 2015                      | Cap. Forecast                 |
| 237  | Martha Street   | M     |         | SANMH          | 1,200                     | 2.61      | B              | 4,636   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 238  | Caroline Street | M     |         | SANMH          | 1,200                     | 3.28      | C              | 4,763   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 239  | Caroline Street | M     |         | SANMH          | 1,200                     | 1.50      | A              | 4,509   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 240  | Caroline Street | M     |         | SANMH          | 1,200                     | 2.17      | B              | 4,636   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 316  | Elgin Street    | M     |         | SANMH          | 1,200                     | 1.23      | A              | 4,509   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 320  | Princess Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 316A | Elgin Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 316B | Elgin Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1940              | 1940            | 2020                      | Cap. Forecast                 |
| 93   | Charles Street  | M     |         | SANMH          | 1,200                     | 2.43      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 193  | Harris Street   | M     |         | SANMH          | 1,200                     | 3.28      | C              | 4,763   | 1944              | 1944            | 2024                      | 319                           |
| 194  | Harris Street   | M     |         | SANMH          | 1,200                     | 2.32      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 356  | Shuter Street   | M     |         | SANMH          | 1,200                     | 3.22      | C              | 4,763   | 1944              | 1944            | 2024                      | 319                           |
| 357  | Shuter Street   | M     |         | SANMH          | 1,200                     | 2.38      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 358  | Shuter Street   | M     |         | SANMH          | 1,200                     | 2.36      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 359  | Shuter Street   | M     |         | SANMH          | 1,200                     | 2.04      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 362  | Caldwell Street | M     |         | SANMH          | 1,200                     | 2.68      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 363  | Caldwell Street | M     |         | SANMH          | 1,200                     | 2.78      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 440  | Harris Street   | M     |         | SANMH          | 1,200                     | 1.94      | A              | 4,509   | 1944              | 1944            | 2024                      | 302                           |
| 356A | Shuter Street   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1944              | 1944            | 2024                      | 311                           |
| 100  | Hill Street     | M     |         | SANMH          | 1,200                     | 1.96      | A              | 4,509   | 1945              | 1945            | 2025                      | 281                           |
| 101  | Hill Street     | M     |         | SANMH          | 1,200                     | 1.63      | A              | 4,509   | 1945              | 1945            | 2025                      | 281                           |
| 72   | Percival Street | M     |         | SANMH          | 1,200                     | 2.52      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 75   | Percival Street | M     |         | SANMH          | 1,200                     | 2.50      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 155  | Victoria Street | M     |         | SANMH          | 1,200                     | 2.53      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 156  | Victoria Street | M     |         | SANMH          | 1,200                     | 2.33      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 348  | Peter Street    | M     |         | SANMH          | 1,200                     | 3.32      | C              | 4,763   | 1947              | 1947            | 2027                      | 260                           |
| 349  | Peter Street    | M     |         | SANMH          | 1,200                     | 2.73      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 350  | Peter Street    | M     |         | SANMH          | 1,200                     | 0.92      | A              | 4,509   | 1947              | 1947            | 2027                      | 246                           |
| 351  | Peter Street    | M     |         | SANMH          | 1,200                     | 4.48      | D              | 5,080   | 1947              | 1947            | 2027                      | 277                           |
| 426  | Peter Street    | M     |         | SANMH          | 1,200                     | 2.53      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |

**TABLE A-4**  
**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name       | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|-------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 349A | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 349B | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1947              | 1947            | 2027                      | 253                           |
| 24   | Bruton Lane       | M     |         | SANMH          | 1,200                     | 1.67      | A              | 4,509   | 1949              | 1949            | 2029                      | 218                           |
| 39   | Fraser Street     | M     |         | SANMH          | 1,200                     | 2.33      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 40   | Fraser Street     | M     |         | SANMH          | 1,200                     | 2.34      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 41   | Trefusis Street   | M     |         | SANMH          | 1,200                     | 3.21      | C              | 4,763   | 1949              | 1949            | 2029                      | 230                           |
| 42   | Trefusis Street   | M     |         | SANMH          | 1,200                     | 2.60      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 43   | Trefusis Street   | M     |         | SANMH          | 1,200                     | 2.57      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 73   | Percival Court N. | M     |         | SANMH          | 1,200                     | 2.44      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 74   | Percival Court S. | M     |         | SANMH          | 1,200                     | 2.28      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 76   | Victoria Street   | M     |         | SANMH          | 1,200                     | 2.11      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 77   | Victoria Street   | M     |         | SANMH          | 1,200                     | 2.94      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 78   | Victoria Street   | M     |         | SANMH          | 1,200                     | 2.15      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 82   | Lavinia Street    | M     |         | SANMH          | 1,200                     | 2.75      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 83   | Lavinia Court     | M     |         | SANMH          | 1,200                     | 2.34      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 84   | Fraser Street     | M     |         | SANMH          | 1,200                     | 2.21      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 90   | Arthur Street     | M     |         | SANMH          | 1,200                     | 1.72      | A              | 4,509   | 1949              | 1949            | 2029                      | 218                           |
| 91   | Arthur Street     | M     |         | SANMH          | 1,200                     | 2.10      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 92   | Arthur Street     | M     |         | SANMH          | 1,200                     | 2.30      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 95   | Bruton Lane       | M     |         | SANMH          | 1,200                     | 1.74      | A              | 4,509   | 1949              | 1949            | 2029                      | 218                           |
| 96   | Bruton Lane       | M     |         | SANMH          | 1,200                     | 1.41      | A              | 4,509   | 1949              | 1949            | 2029                      | 218                           |
| 131  | Hagerman Street   | M     |         | SANMH          | 1,200                     | 3.66      | C              | 4,763   | 1949              | 1949            | 2029                      | 230                           |
| 132  | Hagerman Street   | M     |         | SANMH          | 1,200                     | 1.56      | A              | 4,509   | 1949              | 1949            | 2029                      | 218                           |
| 241  | Caroline Street   | M     |         | SANMH          | 1,200                     | 2.65      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 242  | Ontario Street    | M     |         | SANMH          | 1,200                     | 4.17      | D              | 5,080   | 1949              | 1949            | 2029                      | 246                           |
| 247  | Alfred Street     | M     |         | SANMH          | 1,200                     | 3.11      | C              | 4,763   | 1949              | 1949            | 2029                      | 230                           |
| 250  | Ontario Street    | M     |         | SANMH          | 1,200                     | 3.83      | C              | 4,763   | 1949              | 1949            | 2029                      | 230                           |
| 251  | Ontario Street    | M     |         | SANMH          | 1,200                     | 4.65      | D              | 5,080   | 1949              | 1949            | 2029                      | 246                           |
| 256  | Ontario Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 307  | King Street       | M     |         | SANMH          | 1,200                     | 2.39      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 308  | King Street       | M     |         | SANMH          | 1,200                     | 2.20      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 423  | Lavinia Street    | M     |         | SANMH          | 1,200                     | 2.66      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 436  | Bruton Lane       | M     |         | SANMH          | 1,200                     | 1.72      | A              | 4,509   | 1949              | 1949            | 2029                      | 218                           |
| 131A | Hagerman Street   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 24A  | Bruton Lane       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 24B  | Bruton Lane       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1949              | 1949            | 2029                      | 224                           |
| 102  | Laneway           | M     |         | SANMH          | 1,200                     | 1.90      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 248  | Oxford Street     | M     |         | SANMH          | 1,200                     | 2.44      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 249  | Oxford Street     | M     |         | SANMH          | 1,200                     | 5.29      | E              | 6,350   | 1950              | 1950            | 2030                      | 291                           |
| 257  | Brunswick Avenue  | M     |         | SANMH          | 1,200                     | 1.88      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 258  | Alfred Street     | M     |         | SANMH          | 1,200                     | 3.40      | C              | 4,763   | 1950              | 1950            | 2030                      | 218                           |
| 259  | Orchard Street    | M     |         | SANMH          | 1,200                     | 1.92      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 260  | Alfred Street     | M     |         | SANMH          | 1,200                     | 3.40      | C              | 4,763   | 1950              | 1950            | 2030                      | 218                           |
| 262  | Clovelly Street   | M     |         | SANMH          | 1,200                     | 1.75      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 269  | DeBlaquire Street | M     |         | SANMH          | 1,200                     | 5.75      | E              | 6,350   | 1950              | 1950            | 2030                      | 291                           |
| 291  | Young Street      | M     |         | SANMH          | 1,200                     | 2.31      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 292  | Young Street      | M     |         | SANMH          | 1,200                     | 2.11      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 299  | Easement          | M     |         | SANMH          | 1,200                     | 1.62      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 328  | Francis Street    | M     |         | SANMH          | 1,200                     | 1.52      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 346  | Peter Street      | M     |         | SANMH          | 1,200                     | 3.15      | C              | 4,763   | 1950              | 1950            | 2030                      | 218                           |
| 347  | Peter Street      | M     |         | SANMH          | 1,200                     | 3.37      | C              | 4,763   | 1950              | 1950            | 2030                      | 218                           |
| 421  | Easement          | M     |         | SANMH          | 1,200                     | 1.58      | A              | 4,509   | 1950              | 1950            | 2030                      | 206                           |
| 247A | Alfred Street     | M     |         | SANMH          | 1,200                     | 2.84      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 248A | Oxford Street     | M     |         | SANMH          | 1,200                     | 3.87      | C              | 4,763   | 1950              | 1950            | 2030                      | 218                           |
| 310A | Ward Street       | M     |         | SANMH          | 1,200                     | 2.61      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 335A | Francis Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 342A | King Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1950              | 1950            | 2030                      | 212                           |
| 140  | Hector Street     | M     |         | SANMH          | 1,200                     | 1.00      | A              | 4,509   | 1951              | 1951            | 2031                      | 196                           |
| 592  | Trafalgar Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1951              | 1951            | 2031                      | 201                           |
| 593  | Trafalgar Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1951              | 1951            | 2031                      | 201                           |
| 290  | Young Street      | M     |         | SANMH          | 1,200                     | 1.61      | A              | 4,509   | 1952              | 1952            | 2032                      | 186                           |
| 353  | Hope Street       | M     |         | SANMH          | 1,200                     | 2.60      | B              | 4,636   | 1952              | 1952            | 2032                      | 191                           |
| 354  | Hope Street       | M     |         | SANMH          | 1,200                     | 4.40      | D              | 5,080   | 1952              | 1952            | 2032                      | 209                           |
| 355  | Shuter Street     | M     |         | SANMH          | 1,200                     | 5.95      | E              | 6,350   | 1952              | 1952            | 2032                      | 262                           |
| 245A | Helm Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1952              | 1952            | 2032                      | 191                           |
| 254  | Oxford Street     | M     |         | SANMH          | 1,200                     | 4.95      | D              | 5,080   | 1953              | 1953            | 2033                      | 200                           |

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**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name     | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|-----------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 255  | Oxford Street   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1953              | 1953            | 2033                      | 182                           |
| 271  | Croft Street    | M     |         | SANMH          | 1,200                     | 2.06      | B              | 4,636   | 1953              | 1953            | 2033                      | 182                           |
| 428  | Croft Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1953              | 1953            | 2033                      | 182                           |
| 29   | Charles Street  | M     |         | SANMH          | 1,200                     | 2.08      | B              | 4,636   | 1954              | 1954            | 2034                      | 174                           |
| 79   | Highland Drive  | M     |         | SANMH          | 1,200                     | 3.39      | C              | 4,763   | 1954              | 1954            | 2034                      | 178                           |
| 80   | Highland Drive  | M     |         | SANMH          | 1,200                     | 1.87      | A              | 4,509   | 1954              | 1954            | 2034                      | 169                           |
| 273  | Elgin Street    | M     |         | SANMH          | 1,200                     | 3.11      | C              | 4,763   | 1954              | 1954            | 2034                      | 178                           |
| 274  | Elgin Street    | M     |         | SANMH          | 1,200                     | 3.73      | C              | 4,763   | 1954              | 1954            | 2034                      | 178                           |
| 275  | Hope Street N.  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1954              | 1954            | 2034                      | 174                           |
| 437  | Hope Street     | M     |         | SANMH          | 1,200                     | 2.24      | B              | 4,636   | 1954              | 1954            | 2034                      | 174                           |
| 438  | Hope Street     | M     |         | SANMH          | 1,200                     | 1.78      | A              | 4,509   | 1954              | 1954            | 2034                      | 169                           |
| 273A | Elgin Street    | M     |         | SANMH          | 1,200                     | 3.55      | C              | 4,763   | 1954              | 1954            | 2034                      | 178                           |
| 284A | Elgin Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1954              | 1954            | 2034                      | 174                           |
| S30  | Charles Street  | M     |         | SANMH          | 1,200                     | 2.82      | B              | 4,636   | 1954              | 1954            | 2034                      | 174                           |
| 44   | Trefusis Street | M     |         | SANMH          | 1,200                     | 3.31      | C              | 4,763   | 1955              | 1955            | 2035                      | 171                           |
| 45   | Trefusis Street | M     |         | SANMH          | 1,200                     | 4.68      | D              | 3,910   | 1955              | 1955            | 2035                      | 140                           |
| 46   | Ralston Drive   | M     |         | SANMH          | 1,200                     | 3.70      | C              | 3,666   | 1955              | 1955            | 2035                      | 131                           |
| 60   | Ralston Drive   | M     |         | SANMH          | 1,200                     | 3.29      | C              | 3,666   | 1955              | 1955            | 2035                      | 131                           |
| 61   | Ralston Drive   | M     |         | SANMH          | 1,200                     | 1.54      | A              | 3,470   | 1955              | 1955            | 2035                      | 124                           |
| 337  | Princess Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1955              | 1955            | 2035                      | 166                           |
| 338  | Princess Street | M     |         | SANMH          | 1,200                     | 3.33      | C              | 4,763   | 1955              | 1955            | 2035                      | 171                           |
| 339  | Princess Street | M     |         | SANMH          | 1,200                     | 2.98      | B              | 4,636   | 1955              | 1955            | 2035                      | 166                           |
| 45A  | Ralston Drive   | M     |         | SANMH          | 1,200                     | 3.90      | C              | 3,666   | 1955              | 1955            | 2035                      | 131                           |
| S19  | Charles Street  | M     |         | SANMH          | 1,200                     | 1.48      | A              | 4,509   | 1955              | 1955            | 2035                      | 162                           |
| 67   | Freeman Drive   | M     |         | SANMH          | 1,200                     | 4.64      | D              | 3,910   | 1956              | 1956            | 2036                      | 134                           |
| 88   | Hillcrest Drive | M     |         | SANMH          | 1,200                     | 3.13      | C              | 4,763   | 1956              | 1956            | 2036                      | 163                           |
| 89   | Hillcrest Drive | M     |         | SANMH          | 1,200                     | 2.07      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 263  | Easement        | M     |         | SANMH          | 1,200                     | 2.94      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 264  | Easement        | M     |         | SANMH          | 1,200                     | 2.58      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 265  | Easement        | M     |         | SANMH          | 1,200                     | 2.46      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 266  | Easement        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 300  | McCaul Street   | M     |         | SANMH          | 1,200                     | 2.14      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 352  | Shuter Street   | M     |         | SANMH          | 1,200                     | 4.74      | D              | 5,080   | 1956              | 1956            | 2036                      | 174                           |
| 364  | Highway #2      | M     |         | SANMH          | 1,200                     | 2.06      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 365  | Highway #2      | M     |         | SANMH          | 1,200                     | 1.72      | A              | 4,509   | 1956              | 1956            | 2036                      | 155                           |
| 366  | Highway #2      | M     |         | SANMH          | 1,200                     | 2.26      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 367  | Highway #2      | M     |         | SANMH          | 1,200                     | 2.79      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 368  | Highway #2      | M     |         | SANMH          | 1,200                     | 3.37      | C              | 4,763   | 1956              | 1956            | 2036                      | 163                           |
| 369  | Highway #2      | M     |         | SANMH          | 1,200                     | 3.45      | C              | 4,763   | 1956              | 1956            | 2036                      | 163                           |
| 371  | Highway #2      | M     |         | SANMH          | 1,200                     | 3.46      | C              | 4,763   | 1956              | 1956            | 2036                      | 163                           |
| 372  | Highway #2      | M     |         | SANMH          | 1,200                     | 3.12      | C              | 4,763   | 1956              | 1956            | 2036                      | 163                           |
| 378  | Hope Street     | M     |         | SANMH          | 1,200                     | 2.70      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 309B | Rose Glen Road  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 309D | Rose Glen Road  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1956              | 1956            | 2036                      | 159                           |
| 47   | Victoria Street | M     |         | SANMH          | 1,200                     | 3.26      | C              | 3,666   | 1957              | 1957            | 2037                      | 121                           |
| 48   | Victoria Street | M     |         | SANMH          | 1,200                     | 4.77      | D              | 3,910   | 1957              | 1957            | 2037                      | 129                           |
| 49   | Moore Drive     | M     |         | SANMH          | 1,200                     | 3.84      | C              | 3,666   | 1957              | 1957            | 2037                      | 121                           |
| 50   | Moore Drive     | M     |         | SANMH          | 1,200                     | 3.37      | C              | 3,666   | 1957              | 1957            | 2037                      | 121                           |
| 51   | Moore Drive     | M     |         | SANMH          | 1,200                     | 2.78      | B              | 3,568   | 1957              | 1957            | 2037                      | 117                           |
| 52   | Moore Drive     | M     |         | SANMH          | 1,200                     | 2.38      | B              | 3,568   | 1957              | 1957            | 2037                      | 117                           |
| 53   | Moore Drive     | M     |         | SANMH          | 1,200                     | 2.39      | B              | 4,636   | 1957              | 1957            | 2037                      | 152                           |
| 54   | Moore Drive     | M     |         | SANMH          | 1,200                     | 2.17      | B              | 4,636   | 1957              | 1957            | 2037                      | 152                           |
| 55   | Jocelyn Street  | M     |         | SANMH          | 1,200                     | 3.11      | C              | 4,763   | 1957              | 1957            | 2037                      | 157                           |
| 56   | Jocelyn Street  | M     |         | SANMH          | 1,200                     | 2.91      | B              | 4,636   | 1957              | 1957            | 2037                      | 152                           |
| 57   | Gregory Street  | M     |         | SANMH          | 1,200                     | 2.50      | B              | 3,568   | 1957              | 1957            | 2037                      | 117                           |
| 58   | Gregory Street  | M     |         | SANMH          | 1,200                     | 3.03      | C              | 3,666   | 1957              | 1957            | 2037                      | 121                           |
| 59   | Gregory Street  | M     |         | SANMH          | 1,200                     | 2.27      | B              | 3,568   | 1957              | 1957            | 2037                      | 117                           |
| 68   | Freeman Drive   | M     |         | SANMH          | 1,200                     | 2.24      | B              | 3,568   | 1957              | 1957            | 2037                      | 117                           |
| 69   | Freeman Drive   | M     |         | SANMH          | 1,200                     | 3.70      | C              | 3,666   | 1957              | 1957            | 2037                      | 121                           |
| 70   | Freeman Drive   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1957              | 1957            | 2037                      | 117                           |
| 253  | Ontario Street  | M     |         | SANMH          | 1,200                     | 1.25      | A              | 4,509   | 1957              | 1957            | 2037                      | 148                           |
| 370  | Easement        | M     |         | SANMH          | 1,200                     | 4.32      | D              | 5,080   | 1957              | 1957            | 2037                      | 167                           |
| 373  | Easement        | M     |         | SANMH          | 1,200                     | 4.29      | D              | 5,080   | 1957              | 1957            | 2037                      | 167                           |
| 374  | Easement        | M     |         | SANMH          | 1,200                     | 3.22      | C              | 4,763   | 1957              | 1957            | 2037                      | 157                           |
| 375  | Easement        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1957              | 1957            | 2037                      | 152                           |
| 251A | Ontario Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1957              | 1957            | 2037                      | 152                           |

**TABLE A-4**  
**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name        | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|--------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 14   | Easment            | M     |         | SANMH          | 1,200                     | 1.89      | A              | 4,509   | 1958              | 1958            | 2038                      | 142                           |
| 15   | Easment            | M     |         | SANMH          | 1,200                     | 2.11      | B              | 4,636   | 1958              | 1958            | 2038                      | 146                           |
| 62   | Heneage Street     | M     |         | SANMH          | 1,200                     | 4.18      | D              | 3,910   | 1958              | 1958            | 2038                      | 123                           |
| 63   | Heneage Street     | M     |         | SANMH          | 1,200                     | 3.40      | C              | 3,666   | 1958              | 1958            | 2038                      | 116                           |
| 64   | Heneage Street     | M     |         | SANMH          | 1,200                     | 3.39      | C              | 3,666   | 1958              | 1958            | 2038                      | 116                           |
| 65   | Heneage Street     | M     |         | SANMH          | 1,200                     | 2.65      | B              | 3,568   | 1958              | 1958            | 2038                      | 113                           |
| 71   | Freeman Drive      | M     |         | SANMH          | 1,200                     | 2.04      | B              | 3,568   | 1958              | 1958            | 2038                      | 113                           |
| 114  | Walton Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1958              | 1958            | 2038                      | 146                           |
| 153  | Freeman Drive      | M     |         | SANMH          | 1,200                     | 2.06      | B              | 3,568   | 1958              | 1958            | 2038                      | 113                           |
| 158  | Lakeshore Road     | M     |         | SANMH          | 1,200                     | 1.60      | A              | 4,509   | 1958              | 1958            | 2038                      | 142                           |
| 297  | Easement           | M     |         | SANMH          | 1,200                     | 2.27      | B              | 4,636   | 1958              | 1958            | 2038                      | 146                           |
| 298  | Easement           | M     |         | SANMH          | 1,200                     | 1.75      | A              | 4,509   | 1958              | 1958            | 2038                      | 142                           |
| 422  | Heneage Street     | M     |         | SANMH          | 1,200                     | 2.41      | B              | 3,568   | 1958              | 1958            | 2038                      | 113                           |
| 157A | Lakeshore Road     | M     |         | SANMH          | 1,200                     | 3.43      | C              | 4,763   | 1958              | 1958            | 2038                      | 150                           |
| 252  | Ontario Street     | M     |         | SANMH          | 1,200                     | 3.17      | C              | 4,763   | 1959              | 1959            | 2039                      | 145                           |
| 430  | Percival Street    | M     |         | SANMH          | 1,200                     | 2.35      | B              | 4,636   | 1960              | 1960            | 2040                      | 135                           |
| 431  | Percival Street    | M     |         | SANMH          | 1,200                     | 2.64      | B              | 4,636   | 1960              | 1960            | 2040                      | 135                           |
| 432  | Percival Street    | M     |         | SANMH          | 1,200                     | 2.64      | B              | 4,636   | 1960              | 1960            | 2040                      | 135                           |
| 433  | Percival Street    | M     |         | SANMH          | 1,200                     | 2.72      | B              | 4,636   | 1960              | 1960            | 2040                      | 135                           |
| 554  | Victoria Street S. | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1962              | 1962            | 2042                      | 126                           |
| 20   | Brown Street       | M     |         | SANMH          | 1,200                     | 0.70      | A              | 4,509   | 1963              | 1963            | 2043                      | 118                           |
| 376  | Lake Street        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1957              | 1963            | 2037                      | 152                           |
| 379  | Lake Street        | M     |         | SANMH          | 1,200                     | 2.01      | B              | 4,636   | 1956              | 1963            | 2036                      | 159                           |
| 380  | Lake Street        | M     |         | SANMH          | 1,200                     | 4.66      | D              | 5,080   | 1956              | 1963            | 2036                      | 174                           |
| 381  | Lake Street        | M     |         | SANMH          | 1,200                     | 5.80      | E              | 6,350   | 1956              | 1963            | 2036                      | 218                           |
| 382  | Lake Street        | M     |         | SANMH          | 1,200                     | 5.32      | E              | 6,350   | 1956              | 1963            | 2036                      | 218                           |
| 383  | Lake Street        | M     |         | SANMH          | 1,200                     | 4.35      | D              | 5,080   | 1956              | 1963            | 2036                      | 174                           |
| 384  | Lake Street        | M     |         | SANMH          | 1,200                     | 3.33      | C              | 4,763   | 1956              | 1963            | 2036                      | 163                           |
| 385  | Lake Street        | M     |         | SANMH          | 1,200                     | 2.47      | B              | 4,636   | 1956              | 1963            | 2036                      | 159                           |
| 386  | Lake Street        | M     |         | SANMH          | 1,200                     | 1.86      | A              | 4,509   | 1956              | 1963            | 2036                      | 155                           |
| 387  | Lake Street        | M     |         | SANMH          | 1,200                     | 0.95      | A              | 4,509   | 1956              | 1963            | 2036                      | 155                           |
| 388  | Lake Street        | M     |         | SANMH          | 1,200                     | 2.78      | B              | 4,636   | 1956              | 1963            | 2036                      | 159                           |
| 389  | Lake Street        | M     |         | SANMH          | 1,200                     | 4.07      | D              | 5,080   | 1956              | 1963            | 2036                      | 174                           |
| 390  | Lake Street        | M     |         | SANMH          | 1,200                     | 1.12      | A              | 4,509   | 1956              | 1963            | 2036                      | 155                           |
| 391  | Lake Street        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1956              | 1963            | 2036                      | 159                           |
| 392  | Lake Street        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1956              | 1963            | 2036                      | 159                           |
| 532  | Brown Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 600  | Philips Road       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 15A  | South Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 15D  | Brown Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 15E  | Brown Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 20B  | Brown Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 20C  | Brown Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 253A | Ontario Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 531A | Brown Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1963              | 1963            | 2043                      | 122                           |
| 8    | Queen Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1964              | 1964            | 2044                      | 117                           |
| 9    | Queen Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1964              | 1964            | 2044                      | 117                           |
| 115  | Brogden's Lane     | M     |         | SANMH          | 1,200                     | 1.85      | A              | 4,509   | 1964              | 1964            | 2044                      | 114                           |
| 116  | Brogden's Lane     | M     |         | SANMH          | 1,200                     | 0.90      | A              | 4,509   | 1964              | 1964            | 2044                      | 114                           |
| 117  | Brogden's Lane     | M     |         | SANMH          | 1,200                     | 2.35      | B              | 4,636   | 1964              | 1964            | 2044                      | 117                           |
| 181  | Pine Street        | M     |         | SANMH          | 1,200                     | 3.28      | C              | 4,763   | 1964              | 1964            | 2044                      | 121                           |
| 305  | Hope Street        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1964              | 1964            | 2044                      | 117                           |
| 116A | Brogden's Lane     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1964              | 1964            | 2044                      | 117                           |
| 7A   | Queen Street       | M     |         | SANMH          | 1,200                     | 2.16      | B              | 4,636   | 1964              | 1964            | 2044                      | 117                           |
| 501  | Trefusis Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1965              | 1965            | 2045                      | 87                            |
| 502  | Trefusis Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1965              | 1965            | 2045                      | 87                            |
| 503  | Trefusis Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1965              | 1965            | 2045                      | 87                            |
| 504  | Trefusis Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1965              | 1965            | 2045                      | 87                            |
| 505  | Southby Place      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1965              | 1965            | 2045                      | 87                            |
| 555  | Victoria Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1965              | 1965            | 2045                      | 87                            |
| 251B | Rosevear Boulevard | M     |         | SANMH          | 1,200                     | 6.16      | E              | 6,350   | 1964              | 1965            | 2044                      | 161                           |
| 66   | Keith Place        | M     |         | SANMH          | 1,200                     | 2.49      | B              | 3,568   | 1958              | 1966            | 2038                      | 113                           |
| 500  | Silver Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 506  | Freeman Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 507  | Freeman Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 508  | Freeman Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |

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**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name       | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|-------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 509  | Freeman Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 510  | Scriven Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 511  | Scriven Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 512  | Scriven Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1966              | 1966            | 2046                      | 85                            |
| 533  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1966              | 1966            | 2046                      | 110                           |
| 226  | Mill Street       | M     |         | SANMH          | 1,200                     | 1.84      | A              | 4,509   | 1967              | 1967            | 2047                      | 104                           |
| 722  | Pidgeon Hill Road | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1967              | 1967            | 2047                      | 106                           |
| 723  | Pidgeon Hill Road | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1967              | 1967            | 2047                      | 106                           |
| 724  | Pidgeon Hill Road | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1967              | 1967            | 2047                      | 106                           |
| 725  | Pidgeon Hill Road | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1967              | 1967            | 2047                      | 106                           |
| 261A | Alfred Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1967              | 1967            | 2047                      | 106                           |
| 261B | Alfred Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1967              | 1967            | 2047                      | 106                           |
| 36   | Arthur Street     | M     |         | SANMH          | 1,200                     | 3.34      | C              | 4,763   | 1968              | 1968            | 2048                      | 106                           |
| 255  | Wellington Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 268  | DeBlaquire Street | M     |         | SANMH          | 1,200                     | 2.79      | B              | 4,636   | 1959              | 1968            | 2039                      | 141                           |
| 516  | Pine Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 518  | Wellington Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 519  | Wellington Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 520  | Wellington Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 524  | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 525  | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 526  | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 527  | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 559  | Wellington Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 255A | Easement          | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 524A | Peter Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 525A | Nelson Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 550A | Easement          | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 559A | Wellington Street | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1968              | 1968            | 2048                      | 103                           |
| 11   | Ontario Street    | M     |         | SANMH          | 1,200                     | 2.28      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 12   | Maitland Street   | M     |         | SANMH          | 1,200                     | 2.16      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 13   | Maitland Street   | M     |         | SANMH          | 1,200                     | 2.24      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 70   | Scriven Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1969              | 1969            | 2049                      | 77                            |
| 513  | Scriven Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1969              | 1969            | 2049                      | 77                            |
| 535  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 536  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 537  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 538  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 539  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1969              | 1969            | 2049                      | 77                            |
| 540  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 541  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 542  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 543  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 544  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 545  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 546  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 547  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 548  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 549  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 550  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 551  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 552  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 553  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 180A | Ross Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 245B | Helm Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1969              | 1969            | 2049                      | 100                           |
| 35B  | Cavan Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1969              | 1969            | 2049                      | 77                            |
| 220  | Mill Street       | M     |         | SANMH          | 1,200                     | 1.57      | A              | 4,509   | 1970              | 1970            | 2050                      | 95                            |
| 221  | Mill Street       | M     |         | SANMH          | 1,200                     | 1.84      | A              | 4,509   | 1970              | 1970            | 2050                      | 95                            |
| 222  | Mill Street       | M     |         | SANMH          | 1,200                     | 1.78      | A              | 4,509   | 1970              | 1970            | 2050                      | 95                            |
| 223  | Mill Street       | M     |         | SANMH          | 1,200                     | 2.59      | B              | 4,636   | 1970              | 1970            | 2050                      | 97                            |
| 224  | Mill Street       | M     |         | SANMH          | 1,200                     | 2.77      | B              | 4,636   | 1970              | 1970            | 2050                      | 97                            |
| 227  | Mill Street       | M     |         | SANMH          | 1,200                     | 4.55      | D              | 5,080   | 1970              | 1970            | 2050                      | 107                           |
| 228  | Mill Street       | M     |         | SANMH          | 1,200                     | 2.61      | B              | 4,636   | 1970              | 1970            | 2050                      | 97                            |
| 229  | Mill Street       | M     |         | SANMH          | 1,200                     | 2.06      | B              | 4,636   | 1970              | 1970            | 2050                      | 97                            |
| 230  | Mill Street       | M     |         | SANMH          | 1,200                     | 1.89      | A              | 4,509   | 1970              | 1970            | 2050                      | 95                            |
| 221A | Mill Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1970              | 1970            | 2050                      | 97                            |

**TABLE A-4**  
**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name         | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|---------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 276A | Ontario Street      | M     |         | SANMH          | 1,200                     | 3.82      | C              | 4,763   | 1970              | 1970            | 2050                      | 100                           |
| 118A | Ontario Street      | M     |         | SANMH          | 1,200                     | 2.58      | B              | 4,636   | 1972              | 1972            | 2052                      | 92                            |
| 14A  | Spicer Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1973            | 2053                      | 69                            |
| 29D  | Victoria Street N.  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1973              | 1973            | 2053                      | 89                            |
| 29E  | Victoria Street N.  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1973              | 1973            | 2053                      | 89                            |
| 29F  | Victoria Street N.  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1973              | 1973            | 2053                      | 89                            |
| 29G  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1973              | 1973            | 2053                      | 89                            |
| 212  | Hayward Street      | M     |         | SANMH          | 1,200                     | 2.38      | B              | 4,636   | 1974              | 1974            | 2054                      | 87                            |
| 213  | Hayward Street      | M     |         | SANMH          | 1,200                     | 2.73      | B              | 4,636   | 1974              | 1974            | 2054                      | 87                            |
| 211C | Hayward Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1974              | 1974            | 2054                      | 87                            |
| 211D | Hayward Street      | M     |         | SANMH          | 1,200                     | 2.48      | B              | 4,636   | 1974              | 1974            | 2054                      | 87                            |
| 10   | Walton Street       | M     |         | SANMH          | 1,200                     | 2.86      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 123  | Ridout Street       | M     |         | SANMH          | 1,200                     | 3.81      | C              | 4,763   | 1975              | 1975            | 2055                      | 87                            |
| 124  | Walton Street       | M     |         | SANMH          | 1,200                     | 3.62      | C              | 4,763   | 1975              | 1975            | 2055                      | 87                            |
| 126  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.84      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 127  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.32      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 128  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.68      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 129  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.46      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 130  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.23      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 134  | Pine Street         | M     |         | SANMH          | 1,200                     | 1.43      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 134  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.43      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 135  | Walton Street       | M     |         | SANMH          | 1,200                     | 2.58      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 136  | Walton Street       | M     |         | SANMH          | 1,200                     | 3.31      | C              | 4,763   | 1975              | 1975            | 2055                      | 87                            |
| 137  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.97      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 138  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.88      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 139  | Walton Street       | M     |         | SANMH          | 1,200                     | 1.77      | A              | 4,509   | 1975              | 1975            | 2055                      | 82                            |
| 681  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1975            | 2055                      | 65                            |
| 682  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1975            | 2055                      | 65                            |
| 683  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1975            | 2055                      | 65                            |
| 684  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1975            | 2055                      | 65                            |
| 688  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 689  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 690  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 691  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 692  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 693  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 694  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 695  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 696  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 697  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 134A | Walton Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 222A | Walton Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 25B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 26B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 27B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 28B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 29B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 30B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 31B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 32B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 33B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 34B  | Centennial Drive    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 37B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 38B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 39B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 40B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 40B  | Street Andrews Road | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 41B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 42B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 43B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 44B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 45B  | Crossley Drive      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 46B  | Calgary Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 47B  | Campbell Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 48B  | Street Andrews Road | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1970              | 1975            | 2050                      | 75                            |
| 680A | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1975            | 2055                      | 65                            |

**TABLE A-4  
MUNICIPALITY OF PORT HOPE  
Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name       | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|-------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 685B | Ward Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1975            | 2055                      | 85                            |
| 101C | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 10A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 110C | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 11A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 12A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 13A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 16A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 16B  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 17A  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 18A  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 19A  | Diane Place       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 20A  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 21A  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 22A  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 22B  | Vaughan Avenue    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 24C  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 25A  | Payne Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 26A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 27A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 28C  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 29A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 29C  | Vaughan Avenue    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 2D   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 30A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 31A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 32A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 33A  | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 3D   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 4D   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 5A   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 6A   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 7B   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 8A   | Centennial Drive  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 9A   | Carol Place       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1977            | 2053                      | 69                            |
| 651  | Stanley Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 652  | Stanley Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 653  | Stanley Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 654  | Stanley Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 655  | Stanley Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 656  | Stanley Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 657  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 658  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 659  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 660  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 661  | Pochon Avenue     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 662  | Pochon Avenue     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 663  | Pochon Avenue     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 664  | Pochon Avenue     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 665  | Pochon Avenue     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 666  | Pochon Avenue     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 667  | Arthur Mark Drive | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 668  | Arthur Mark Drive | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 669  | Arthur Mark Drive | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 670  | Arthur Mark Drive | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 671  | Arthur Mark Drive | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 672  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 673  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 674  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 675  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1975              | 1978            | 2055                      | 65                            |
| 676  | Kelly Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1978            | 2053                      | 69                            |
| 677  | Kelly Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1978            | 2053                      | 69                            |
| 678  | Kelly Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1978            | 2053                      | 69                            |
| 679  | Kelly Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1978            | 2053                      | 69                            |
| 680  | Kelly Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1973              | 1978            | 2053                      | 69                            |
| 685A | Kelly Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1978            | 2055                      | 85                            |

**TABLE A-4**  
**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name          | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|----------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 686A | Kelly Crescent       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1978            | 2055                      | 85                            |
| 687A | Kelly Crescent       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1975              | 1978            | 2055                      | 85                            |
| 100A | Bedford Street       | M     |         | SANMH          | 1,200                     | 3.50      | C              | 4,763   | 1980              | 1980            | 2060                      | 76                            |
| 100B | Bedford Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1980              | 1980            | 2060                      | 74                            |
| 9B   | John Steet           | M     |         | SANMH          | 1,200                     | 1.80      | A              | 4,509   | 1980              | 1980            | 2060                      | 72                            |
| 9C   | John Street          | M     |         | SANMH          | 1,200                     | 1.80      | A              | 4,509   | 1980              | 1980            | 2060                      | 72                            |
| 195  | Alexander Street     | M     |         | SANMH          | 1,200                     | 3.70      | C              | 4,763   | 1981              | 1981            | 2061                      | 75                            |
| 214  | Eldorado             | M     |         | SANMH          | 1,200                     | 1.70      | A              | 4,509   | 1981              | 1981            | 2061                      | 71                            |
| 215  | Eldorado             | M     |         | SANMH          | 1,200                     | 1.44      | A              | 4,509   | 1981              | 1981            | 2061                      | 71                            |
| 216  | Eldorado             | M     |         | SANMH          | 1,200                     | 0.82      | A              | 4,509   | 1981              | 1981            | 2061                      | 71                            |
| 217  | Eldorado             | M     |         | SANMH          | 1,200                     | 0.80      | A              | 4,509   | 1981              | 1981            | 2061                      | 71                            |
| 439  | Alexander Street     | M     |         | SANMH          | 1,200                     | 4.48      | D              | 5,080   | 1981              | 1981            | 2061                      | 80                            |
| 211A | John Street          | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1981              | 1981            | 2061                      | 73                            |
| 211B | John Street          | M     |         | SANMH          | 1,200                     | 3.14      | C              | 4,763   | 1981              | 1981            | 2061                      | 75                            |
| 439C | John Street          | M     |         | SANMH          | 1,200                     | 2.07      | B              | 4,636   | 1981              | 1981            | 2061                      | 73                            |
| 201  | Marsh Street         | M     |         | SANMH          | 1,200                     | 2.46      | B              | 4,636   | 1982              | 1982            | 2062                      | 71                            |
| 202  | Marsh Street         | M     |         | SANMH          | 1,200                     | 2.75      | B              | 4,636   | 1982              | 1982            | 2062                      | 71                            |
| 204  | Eldorado             | M     |         | SANMH          | 1,200                     | 2.77      | B              | 4,636   | 1982              | 1982            | 2062                      | 71                            |
| 203A | Marsh Street         | M     |         | SANMH          | 1,200                     | 1.36      | A              | 4,509   | 1982              | 1982            | 2062                      | 69                            |
| 203  | Marsh Street         | M     |         | SANMH          | 1,200                     | 2.56      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| 202A | Choate Street        | M     |         | SANMH          | 1,200                     | 2.39      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| 439A | Alexander Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| 439B | Alexander Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| 439E | Hayward Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| 439F | Hayward Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| S38  | Highway #2           | M     |         | SANMH          | 1,200                     | 2.90      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| S39  | Highway #2           | M     |         | SANMH          | 1,200                     | 3.10      | C              | 4,763   | 1983              | 1983            | 2063                      | 71                            |
| S40  | Highway #2           | M     |         | SANMH          | 1,200                     | 3.77      | C              | 4,763   | 1983              | 1983            | 2063                      | 71                            |
| S41  | Highway #2           | M     |         | SANMH          | 1,200                     | 2.97      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| S42  | Highway #2           | M     |         | SANMH          | 1,200                     | 2.72      | B              | 4,636   | 1983              | 1983            | 2063                      | 69                            |
| S43  | Highway #2           | M     |         | SANMH          | 1,200                     | 3.42      | C              | 4,763   | 1983              | 1983            | 2063                      | 71                            |
| S44  | Highway #2           | M     |         | SANMH          | 1,200                     | 3.12      | C              | 4,763   | 1983              | 1983            | 2063                      | 71                            |
| 102C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 103C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 104C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 105C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 106C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 107C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 108C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 109C | Hewson Drive         | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1985              | 1985            | 2065                      | 51                            |
| 329  | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 2.74      | B              | 4,636   | 1987              | 1987            | 2067                      | 63                            |
| 330  | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 2.33      | B              | 4,636   | 1987              | 1987            | 2067                      | 63                            |
| 329A | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1987              | 1987            | 2067                      | 63                            |
| 329B | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 0.91      | A              | 4,509   | 1987              | 1987            | 2067                      | 62                            |
| 329C | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1987              | 1987            | 2067                      | 63                            |
| 329D | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1987              | 1987            | 2067                      | 63                            |
| 329E | DeBlaquire Street S. | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1987              | 1987            | 2067                      | 63                            |
| 243  | Hope Street N.       | M     |         | SANMH          | 1,200                     | 3.78      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 244  | Hope Street N.       | M     |         | SANMH          | 1,200                     | 3.70      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 245  | Hope Street N.       | M     |         | SANMH          | 1,200                     | 4.40      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 246  | Hope Street N.       | M     |         | SANMH          | 1,200                     | 2.75      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 261  | Alfred Street        | M     |         | SANMH          | 1,200                     | 2.24      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 576  | Hodgson Street       | M     |         | SANMH          | 1,200                     | 4.60      | D              | 3,910   | 1988              | 1988            | 2068                      | 52                            |
| 579  | Hodgson Street       | M     |         | SANMH          | 1,200                     | 5.56      | E              | 4,888   | 1988              | 1988            | 2068                      | 65                            |
| 580  | Hodgson Street       | M     |         | SANMH          | 1,200                     | 5.28      | E              | 4,888   | 1988              | 1988            | 2068                      | 65                            |
| 581  | Hogston Street       | M     |         | SANMH          | 1,200                     | 3.41      | C              | 3,666   | 1988              | 1988            | 2068                      | 49                            |
| 601  | Phillips Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 602  | Phillips Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 603  | Phillips Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 604  | Philips Road         | M     |         | SANMH          | 1,200                     | 3.65      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 605  | Philips Road         | M     |         | SANMH          | 1,200                     | 4.28      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 606  | Rose Glen Road       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 607  | Rose Glen Road       | M     |         | SANMH          | 1,200                     | 2.90      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 608  | Rose Glen Road       | M     |         | SANMH          | 1,200                     | 3.20      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 609  | Rose Glen Road       | M     |         | SANMH          | 1,200                     | 3.53      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 610  | Rose Glen Road       | M     |         | SANMH          | 1,200                     | 3.42      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |

**TABLE A-4  
MUNICIPALITY OF PORT HOPE  
Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name         | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|---------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 620  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1988            | 2068                      | 48                            |
| 626  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1988            | 2068                      | 48                            |
| 627  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1988            | 2068                      | 48                            |
| 700  | Beamish Street      | M     |         | SANMH          | 1,200                     | 1.10      | A              | 4,509   | 1988              | 1988            | 2068                      | 60                            |
| 701  | Hope Street N.      | M     |         | SANMH          | 1,200                     | 5.88      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 702  | Bennett Court       | M     |         | SANMH          | 1,200                     | 3.39      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 703  | Bennett Court       | M     |         | SANMH          | 1,200                     | 3.85      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 704  | Hope Street N.      | M     |         | SANMH          | 1,200                     | 5.23      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 705  | Hope Street N.      | M     |         | SANMH          | 1,200                     | 6.01      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 706  | Hope Street N.      | M     |         | SANMH          | 1,200                     | 4.73      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 707  | Hope Street N.      | M     |         | SANMH          | 1,200                     | 4.82      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 708  | Hope Street N.      | M     |         | SANMH          | 1,200                     | 3.72      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 709  | Walnut Street       | M     |         | SANMH          | 1,200                     | 4.60      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 710  | Walnut Street       | M     |         | SANMH          | 1,200                     | 3.52      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 711  | Molson Street       | M     |         | SANMH          | 1,200                     | 3.09      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 712  | Molson Street       | M     |         | SANMH          | 1,200                     | 4.20      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 713  | Alfred Street       | M     |         | SANMH          | 1,200                     | 1.93      | A              | 4,509   | 1988              | 1988            | 2068                      | 60                            |
| 714  | Molson Street       | M     |         | SANMH          | 1,200                     | 5.30      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 715  | Mitchell Street     | M     |         | SANMH          | 1,200                     | 3.10      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 716  | Mitchell Street     | M     |         | SANMH          | 1,200                     | 3.50      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 717  | Philips Road        | M     |         | SANMH          | 1,200                     | 1.82      | A              | 4,509   | 1988              | 1988            | 2068                      | 60                            |
| 718  | Wellington Street   | M     |         | SANMH          | 1,200                     | 6.27      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 719  | Philips Road        | M     |         | SANMH          | 1,200                     | 4.32      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 720  | Philips Road        | M     |         | SANMH          | 1,200                     | 4.40      | D              | 5,080   | 1988              | 1988            | 2068                      | 68                            |
| 721  | Wladyka Park        | M     |         | SANMH          | 1,200                     | 3.08      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 246A | Hope Street N.      | M     |         | SANMH          | 1,200                     | 5.83      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 251B | Wellington Street   | M     |         | SANMH          | 1,200                     | 6.16      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 708A | Hope Street N.      | M     |         | SANMH          | 1,200                     | 1.43      | A              | 4,509   | 1988              | 1988            | 2068                      | 60                            |
| 711A | Molson Street       | M     |         | SANMH          | 1,200                     | 5.10      | E              | 6,350   | 1988              | 1988            | 2068                      | 85                            |
| 713A | Alfred Street       | M     |         | SANMH          | 1,200                     | 2.42      | B              | 4,636   | 1988              | 1988            | 2068                      | 62                            |
| 721A | Wladyka Park        | M     |         | SANMH          | 1,200                     | 3.38      | C              | 4,763   | 1988              | 1988            | 2068                      | 64                            |
| 37   | Hillcrest Drive     | M     |         | SANMH          | 1,200                     | 2.65      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| 38   | Fraser Street       | M     |         | SANMH          | 1,200                     | 2.22      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| 87   | Lavinia Street      | M     |         | SANMH          | 1,200                     | 2.36      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S1   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.47      | C              | 4,763   | 1989              | 1989            | 2069                      | 62                            |
| S10  | Toronto Road        | M     |         | SANMH          | 1,200                     | 4.42      | D              | 5,080   | 1989              | 1989            | 2069                      | 66                            |
| S11  | Toronto Road        | M     |         | SANMH          | 1,200                     | 4.37      | D              | 5,080   | 1989              | 1989            | 2069                      | 66                            |
| S12  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S13  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S14  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S15  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.90      | C              | 4,763   | 1989              | 1989            | 2069                      | 62                            |
| S16  | Toronto Road        | M     |         | SANMH          | 1,200                     | 7.13      | E              | 6,350   | 1989              | 1989            | 2069                      | 83                            |
| S17  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S18  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S19A | Charles Street      | M     |         | SANMH          | 1,200                     | 1.70      | A              | 4,509   | 1989              | 1989            | 2069                      | 59                            |
| S1A  | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.36      | C              | 4,763   | 1989              | 1989            | 2069                      | 62                            |
| S2   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S20  | Charles Street      | M     |         | SANMH          | 1,200                     | 2.90      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S21  | Charles Street      | M     |         | SANMH          | 1,200                     | 5.40      | E              | 6,350   | 1989              | 1989            | 2069                      | 83                            |
| S22  | Victoria Street. S. | M     |         | SANMH          | 1,200                     | 5.97      | E              | 6,350   | 1989              | 1989            | 2069                      | 83                            |
| S23  | Victoria Street. S. | M     |         | SANMH          | 1,200                     | 4.38      | D              | 5,080   | 1989              | 1989            | 2069                      | 66                            |
| S24  | Victoria Street. S. | M     |         | SANMH          | 1,200                     | 3.30      | C              | 4,763   | 1989              | 1989            | 2069                      | 62                            |
| S25  | Victoria Street. S. | M     |         | SANMH          | 1,200                     | 2.64      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S3   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S4   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.72      | C              | 4,763   | 1989              | 1989            | 2069                      | 62                            |
| S5   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S6   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S7   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.89      | C              | 4,763   | 1989              | 1989            | 2069                      | 62                            |
| S7A  | Percival Street     | M     |         | SANMH          | 1,200                     | 2.46      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S8   | Toronto Road        | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1989              | 1989            | 2069                      | 61                            |
| S9   | Toronto Road        | M     |         | SANMH          | 1,200                     | 4.12      | D              | 5,080   | 1989              | 1989            | 2069                      | 66                            |
| 189B | Augusta Street      | M     |         | SANMH          | 1,200                     | 3.07      | C              | 4,763   | 1990              | 1990            | 2070                      | 61                            |
| 87A  | Lavinia Street      | M     |         | SANMH          | 1,200                     | 3.33      | C              | 4,763   | 1990              | 1990            | 2070                      | 61                            |
| 87B  | Lavinia Street      | M     |         | SANMH          | 1,200                     | 3.38      | C              | 4,763   | 1990              | 1990            | 2070                      | 61                            |
| 87C  | Lavinia Street      | M     |         | SANMH          | 1,200                     | 2.79      | B              | 4,636   | 1990              | 1990            | 2070                      | 59                            |
| S45  | Croft Street        | M     |         | SANMH          | 1,200                     | 2.82      | B              | 3,568   | 1990              | 1990            | 2070                      | 46                            |

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| ID   | Street Name       | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|-------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| S46  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.20      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S47  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.10      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S48  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.13      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S49  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.35      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S50  | Croft Street      | M     |         | SANMH          | 1,200                     | 4.36      | D              | 3,910   | 1990              | 1990            | 2070                      | 50                            |
| S51  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.53      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S52  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.53      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S53  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.59      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S54  | Croft Street      | M     |         | SANMH          | 1,200                     | 3.24      | C              | 3,666   | 1990              | 1990            | 2070                      | 47                            |
| S55  | Croft Street      | M     |         | SANMH          | 1,200                     | 4.38      | D              | 3,910   | 1990              | 1990            | 2070                      | 50                            |
| S56  | Rose Glen Road    | M     |         | SANMH          | 1,200                     | 2.72      | B              | 4,636   | 1990              | 1990            | 2070                      | 59                            |
| S57  | Rose Glen Road    | M     |         | SANMH          | 1,200                     | 2.09      | B              | 4,636   | 1990              | 1990            | 2070                      | 59                            |
| 150  | John Street       | M     |         | SANMH          | 1,200                     | 2.69      | B              | 4,636   | 1991              | 1991            | 2071                      | 58                            |
| 611  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.37      | C              | 3,666   | 1988              | 1991            | 2068                      | 49                            |
| 612  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 613  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 614  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 615  | Scott Crescent    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 616  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 617  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 618  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 619  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 621  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 622  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 623  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 624  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 625  | Sanders Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 628  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 629  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 630  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 631  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 632  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 633  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 634  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 635  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 636  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 637  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 638  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 639  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 640  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 641  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 642  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 643  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 644  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 645  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 646  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 647  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 648  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 649  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 650  | Peacock Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1991            | 2068                      | 48                            |
| 150A | John Street       | M     |         | SANMH          | 1,200                     | 3.22      | C              | 4,763   | 1991              | 1991            | 2071                      | 60                            |
| 2    | Hayward Street    | M     |         | SANMH          | 1,200                     | 3.73      | C              | 4,763   | 1992              | 1992            | 2072                      | 58                            |
| 3    | Queen Street      | M     |         | SANMH          | 1,200                     | 2.27      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 6    | Queen Street      | M     |         | SANMH          | 1,200                     | 3.27      | C              | 4,763   | 1992              | 1992            | 2072                      | 58                            |
| 7    | Queen Street      | M     |         | SANMH          | 1,200                     | 2.12      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 152  | Robertson Street  | M     |         | SANMH          | 1,200                     | 1.46      | A              | 4,509   | 1992              | 1992            | 2072                      | 55                            |
| 165  | Strachan Street   | M     |         | SANMH          | 1,200                     | 5.62      | E              | 6,350   | 1992              | 1992            | 2072                      | 78                            |
| 174  | Strachan Street   | M     |         | SANMH          | 1,200                     | 5.78      | E              | 6,350   | 1992              | 1992            | 2072                      | 78                            |
| 175  | Strachan Street   | M     |         | SANMH          | 1,200                     | 4.18      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 176  | Gifford Street    | M     |         | SANMH          | 1,200                     | 5.45      | E              | 6,350   | 1992              | 1992            | 2072                      | 78                            |
| 177  | Gifford Street    | M     |         | SANMH          | 1,200                     | 4.87      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 178  | Gifford Street    | M     |         | SANMH          | 1,200                     | 2.45      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 179  | Gifford Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 180  | Thomas Street     | M     |         | SANMH          | 1,200                     | 2.18      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 182  | Thomas Street     | M     |         | SANMH          | 1,200                     | 5.04      | E              | 6,350   | 1992              | 1992            | 2072                      | 78                            |
| 189  | Thomas Street     | M     |         | SANMH          | 1,200                     | 4.01      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |

**TABLE A-4**  
**MUNICIPALITY OF PORT HOPE**  
**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name        | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|--------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 191  | Dorset Street E.   | M     |         | SANMH          | 1,200                     | 1.68      | A              | 4,509   | 1992              | 1992            | 2072                      | 55                            |
| 145A | Harris Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 152A | Robertson Street   | M     |         | SANMH          | 1,200                     | 1.75      | A              | 4,509   | 1992              | 1992            | 2072                      | 55                            |
| 165A | Strachan Street    | M     |         | SANMH          | 1,200                     | 4.90      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 175A | Strachan Street    | M     |         | SANMH          | 1,200                     | 4.18      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 175B | Strachan Street    | M     |         | SANMH          | 1,200                     | 4.02      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 175C | Strachan Street    | M     |         | SANMH          | 1,200                     | 4.37      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 175D | Strachan Street    | M     |         | SANMH          | 1,200                     | 3.91      | C              | 4,763   | 1992              | 1992            | 2072                      | 58                            |
| 177A | Thomas Street      | M     |         | SANMH          | 1,200                     | 2.40      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 180B | Pine Street        | M     |         | SANMH          | 1,200                     | 2.73      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 182A | Thomas Street      | M     |         | SANMH          | 1,200                     | 5.79      | E              | 6,350   | 1992              | 1992            | 2072                      | 78                            |
| 182B | Thomas Street      | M     |         | SANMH          | 1,200                     | 4.38      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 189A | Augusta Street     | M     |         | SANMH          | 1,200                     | 4.77      | D              | 5,080   | 1992              | 1992            | 2072                      | 62                            |
| 189C | Queen Street       | M     |         | SANMH          | 1,200                     | 2.65      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 2A   | Hayward Street     | M     |         | SANMH          | 1,200                     | 3.96      | C              | 4,763   | 1992              | 1992            | 2072                      | 58                            |
| S26  | Strachan Street    | M     |         | SANMH          | 1,200                     | 2.41      | B              | 4,636   | 1992              | 1992            | 2072                      | 57                            |
| 561  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 2.77      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 562  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.59      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 563  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 3.85      | C              | 3,666   | 1988              | 1993            | 2068                      | 49                            |
| 564  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 2.58      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 565  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 3.06      | C              | 3,666   | 1988              | 1993            | 2068                      | 49                            |
| 566  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 3.65      | C              | 3,666   | 1988              | 1993            | 2068                      | 49                            |
| 567  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 3.33      | C              | 3,666   | 1988              | 1993            | 2068                      | 49                            |
| 568  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.99      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 569  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.59      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 570  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.27      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 571  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.26      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 572  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.10      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 573  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 4.89      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 574  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 2.82      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 575  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 3.77      | C              | 3,666   | 1988              | 1993            | 2068                      | 49                            |
| 577  | Ravine Drive       | M     |         | SANMH          | 1,200                     | 2.93      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 578  | Herbert Place      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 582  | Gibson Place       | M     |         | SANMH          | 1,200                     | 2.16      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 583  | Lyllal Place       | M     |         | SANMH          | 1,200                     | 4.74      | D              | 3,910   | 1988              | 1993            | 2068                      | 52                            |
| 560A | Ravine Drive       | M     |         | SANMH          | 1,200                     | 2.71      | B              | 3,568   | 1988              | 1993            | 2068                      | 48                            |
| 187  | Sherbourne Street  | M     |         | SANMH          | 1,200                     | 2.86      | B              | 4,636   | 1994              | 1994            | 2074                      | 55                            |
| 424  | Sherbourne Street  | M     |         | SANMH          | 1,200                     | 2.38      | B              | 4,636   | 1994              | 1994            | 2074                      | 55                            |
| 145B | Pine Street        | M     |         | SANMH          | 1,200                     | 3.84      | C              | 4,763   | 1994              | 1994            | 2074                      | 56                            |
| S60  | Dorset Street E.   | M     |         | SANMH          | 1,200                     | 4.66      | D              | 5,080   | 1995              | 1995            | 2075                      | 59                            |
| S61  | Dorset Street E.   | M     |         | SANMH          | 1,200                     | 2.62      | B              | 4,636   | 1995              | 1995            | 2075                      | 53                            |
| S62  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 5.39      | E              | 6,350   | 1995              | 1995            | 2075                      | 73                            |
| S63  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 4.55      | D              | 5,080   | 1995              | 1995            | 2075                      | 59                            |
| S64  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 3.65      | C              | 4,763   | 1995              | 1995            | 2075                      | 55                            |
| S65  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 3.80      | C              | 4,763   | 1995              | 1995            | 2075                      | 55                            |
| S66  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 3.50      | C              | 4,763   | 1995              | 1995            | 2075                      | 55                            |
| S67  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 4.06      | D              | 5,080   | 1995              | 1995            | 2075                      | 59                            |
| S68  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 5.18      | E              | 6,350   | 1995              | 1995            | 2075                      | 73                            |
| S69  | Rose Glen Road     | M     |         | SANMH          | 1,200                     | 4.68      | D              | 5,080   | 1995              | 1995            | 2075                      | 59                            |
| 272  | Croft Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1996              | 1996            | 2076                      | 52                            |
| 272A | Croft Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1996              | 1996            | 2076                      | 52                            |
| 275A | Croft Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1996              | 1996            | 2076                      | 52                            |
| 162  | Victoria Street S. | M     |         | SANMH          | 1,200                     | 2.48      | B              | 4,636   | 1997              | 1997            | 2077                      | 51                            |
| 183  | Augusta Street     | M     |         | SANMH          | 1,200                     | 1.67      | A              | 4,509   | 1997              | 1997            | 2077                      | 50                            |
| 184  | Thomas Street      | M     |         | SANMH          | 1,200                     | 4.17      | D              | 5,080   | 1997              | 1997            | 2077                      | 56                            |
| 185  | Thomas Street      | M     |         | SANMH          | 1,200                     | 2.74      | B              | 4,636   | 1997              | 1997            | 2077                      | 51                            |
| 186  | Thomas Street      | M     |         | SANMH          | 1,200                     | 2.44      | B              | 4,636   | 1997              | 1997            | 2077                      | 51                            |
| 270  | Croft Street       | M     |         | SANMH          | 1,200                     | 4.74      | D              | 5,080   | 1997              | 1997            | 2077                      | 56                            |
| 521  | Croft Street       | M     |         | SANMH          | 1,200                     | 4.53      | D              | 5,080   | 1997              | 1997            | 2077                      | 56                            |
| 145C | Pine Street        | M     |         | SANMH          | 1,200                     | 17.30     | E              | 6,350   | 1997              | 1997            | 2077                      | 70                            |
| 184A | Thomas Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1997              | 1997            | 2077                      | 51                            |
| 163  | Victoria Street S. | M     |         | SANMH          | 1,200                     | 2.14      | B              | 4,636   | 1998              | 1998            | 2078                      | 50                            |
| 163A | Victoria Street S. | M     |         | SANMH          | 1,200                     | 1.88      | A              | 4,509   | 1998              | 1998            | 2078                      | 49                            |
| 931  | Clifton Road       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 1999            | 2079                      | 38                            |
| 932  | Clifton Road       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 1999            | 2079                      | 38                            |
| 933  | Clifton Road       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 1999            | 2079                      | 38                            |

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**Sewer Maintenance Holes Inventory, 2009**

| ID   | Street Name         | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|------|---------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 1    | House               | M     |         | SANMH          | 1,200                     | 4.77      | D              | 5,080   | 2000              | 2000            | 2080                      | 53                            |
| 218  | Easement            | M     |         | SANMH          | 1,200                     | 2.17      | B              | 4,636   | 2000              | 2000            | 2080                      | 49                            |
| 219  | Easement            | M     |         | SANMH          | 1,200                     | 1.32      | A              | 4,509   | 2000              | 2000            | 2080                      | 47                            |
| 305  | Armour Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 2000              | 2000            | 2080                      | 49                            |
| 306  | Ward Street         | M     |         | SANMH          | 1,200                     | 1.16      | A              | 4,509   | 2000              | 2000            | 2080                      | 47                            |
| 28   | Brimley Street      | M     |         | SANMH          | 1,200                     | 1.74      | A              | 4,509   | 2002              | 2002            | 2082                      | 45                            |
| 28A  | Brimley Street      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 2002              | 2002            | 2082                      | 47                            |
| 166  | Brimley Street      | M     |         | SANMH          | 1,200                     | 3.07      | C              | 4,763   | 2003              | 2003            | 2083                      | 47                            |
| 170  | Brimley Street      | M     |         | SANMH          | 1,200                     | 4.80      | D              | 5,080   | 2003              | 2003            | 2083                      | 50                            |
| 171  | Brimley Street      | M     |         | SANMH          | 1,200                     | 2.51      | B              | 4,636   | 2003              | 2003            | 2083                      | 46                            |
| 167  | Brimley Street      | M     |         | SANMH          | 1,200                     | 2.67      | B              | 4,636   | 2004              | 2004            | 2084                      | 45                            |
| 302  | McCaul Street       | M     |         | SANMH          | 1,200                     | 2.58      | B              | 4,636   | 2004              | 2004            | 2084                      | 45                            |
| 302A | McCaul Street       | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 2004              | 2004            | 2084                      | 45                            |
| 325  | Elgin Street        | M     |         | SANMH          | 1,200                     | 2.09      | B              | 4,636   | 2006              | 2006            | 2086                      | 43                            |
| 326  | Elgin Street        | M     |         | SANMH          | 1,200                     | 2.38      | B              | 4,636   | 2006              | 2006            | 2086                      | 43                            |
| 800  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 5.21      | E              | 4,888   | 2006              | 2006            | 2086                      | 46                            |
| 801  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 6.20      | E              | 4,888   | 2006              | 2006            | 2086                      | 46                            |
| 802  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 2.84      | B              | 3,568   | 2006              | 2006            | 2086                      | 33                            |
| 803  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 1.34      | A              | 3,470   | 2006              | 2006            | 2086                      | 33                            |
| 804  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 1.35      | A              | 3,470   | 2006              | 2006            | 2086                      | 33                            |
| 805  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 1.53      | A              | 3,470   | 2006              | 2006            | 2086                      | 33                            |
| 806  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 1.42      | A              | 3,470   | 2006              | 2006            | 2086                      | 33                            |
| 807  | Little's Creek Farm | M     |         | SANMH          | 1,200                     | 6.30      | E              | 4,888   | 2006              | 2006            | 2086                      | 46                            |
| 817  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 4.94      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 820  | Route               | M     |         | SANMH          | 1,200                     | 5.06      | E              | 4,888   | 2006              | 2006            | 2086                      | 46                            |
| 826  | Street 'C'          | M     |         | SANMH          | 1,200                     | 3.26      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 833  | Street 'C'          | M     |         | SANMH          | 1,200                     | 3.17      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 834  | Street 'C'          | M     |         | SANMH          | 1,200                     | 3.30      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 835  | Street 'B'          | M     |         | SANMH          | 1,200                     | 3.91      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 836  | Easement            | M     |         | SANMH          | 1,200                     | 3.70      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 837  | Easement            | M     |         | SANMH          | 1,200                     | 3.98      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 838  | Easement            | M     |         | SANMH          | 1,200                     | 4.05      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 839  | Easement            | M     |         | SANMH          | 1,200                     | 4.59      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 840  | Easement            | M     |         | SANMH          | 1,200                     | 4.09      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 841  | Easement            | M     |         | SANMH          | 1,200                     | 4.27      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 842  | Easement            | M     |         | SANMH          | 1,200                     | 4.31      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 843  | Easement            | M     |         | SANMH          | 1,200                     | 4.81      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 844  | Easement            | M     |         | SANMH          | 1,200                     | 3.59      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 845  | Easement            | M     |         | SANMH          | 1,200                     | 3.10      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 846  | Easement            | M     |         | SANMH          | 1,200                     | 3.05      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 847  | EasementWest        | M     |         | SANMH          | 1,200                     | 3.66      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 848  | Easement            | M     |         | SANMH          | 1,200                     | 4.10      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 849  | Easement            | M     |         | SANMH          | 1,200                     | 5.22      | E              | 4,888   | 2006              | 2006            | 2086                      | 46                            |
| 850  | Easement            | M     |         | SANMH          | 1,200                     | 2.57      | B              | 3,568   | 2006              | 2006            | 2086                      | 33                            |
| 851  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 4.95      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 852  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 5.10      | E              | 4,888   | 2006              | 2006            | 2086                      | 46                            |
| 853  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 3.79      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 854  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 2006              | 2006            | 2086                      | 33                            |
| 855  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 3.02      | C              | 3,666   | 2006              | 2006            | 2086                      | 34                            |
| 856  | Lakeshore Road      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 2006              | 2006            | 2086                      | 33                            |
| 857  | Route               | M     |         | SANMH          | 1,200                     | 4.21      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 858  | Route               | M     |         | SANMH          | 1,200                     | 4.70      | D              | 3,910   | 2006              | 2006            | 2086                      | 37                            |
| 326A | Elgin Street        | M     |         | SANMH          | 1,200                     | 2.90      | B              | 4,636   | 2006              | 2006            | 2086                      | 43                            |
| 301  | Elgin Street        | M     |         | SANMH          | 1,200                     | 3.65      | C              | 4,763   | 2007              | 2007            | 2087                      | 44                            |
| 303  | Elgin Street        | M     |         | SANMH          | 1,200                     | 1.84      | A              | 4,509   | 2007              | 2007            | 2087                      | 42                            |
| 450  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 1.97      | A              | 3,470   | 1998              | 2007            | 2078                      | 38                            |
| 451  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 2.93      | B              | 3,568   | 1998              | 2007            | 2078                      | 39                            |
| 452  | Easement            | M     |         | SANMH          | 1,200                     | 3.56      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 453  | Easement            | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1998              | 2007            | 2078                      | 39                            |
| 454  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 3.10      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 455  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 2.64      | B              | 3,568   | 1998              | 2007            | 2078                      | 39                            |
| 456  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 2.52      | B              | 3,568   | 1998              | 2007            | 2078                      | 39                            |
| 457  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 3.17      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 458  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 3.50      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 459  | Chalmers Crt.       | M     |         | SANMH          | 1,200                     | 3.05      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 460  | Trefusis Street     | M     |         | SANMH          | 1,200                     | 3.53      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |

**TABLE A-4  
MUNICIPALITY OF PORT HOPE  
Sewer Maintenance Holes Inventory, 2009**

| ID  | Street Name      | Owner | Assumed | Structure Type | Maint. Hole Diameter (mm) | Depth (m) | Depth Category | Total Current Replacement Cost (2007 dollars) | Construction Year | Assumption Date | Proposed Replacement Year | Annual Lifecycle Contribution |
|-----|------------------|-------|---------|----------------|---------------------------|-----------|----------------|---|-------------------|-----------------|---------------------------|-------------------------------|
| 461 | Trefusis Street  | M     |         | SANMH          | 1,200                     | 3.59      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 462 | Trefusis Street  | M     |         | SANMH          | 1,200                     | 3.24      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 463 | Trefusis Street  | M     |         | SANMH          | 1,200                     | 3.06      | C              | 3,666   | 1998              | 2007            | 2078                      | 40                            |
| 875 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 6.18      | E              | 4,888   | 2006              | 2008            | 2086                      | 46                            |
| 876 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 877 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 878 | Ramsey Road      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 879 | Ramsey Road      | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 880 | Jeffries Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 881 | Jeffries Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 882 | Jeffries Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 883 | Jeffries Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 884 | Jeffries Street  | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 885 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 886 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 887 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 889 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 890 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 891 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 892 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 893 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 894 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 895 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 896 | Huffman Avenue   | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 897 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 900 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 901 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 902 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 903 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 904 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 905 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 906 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 907 | Jarvis Drive     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 908 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 909 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 917 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 918 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 919 | Rapley Boulevard | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14B | Spicer Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14C | Spicer Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14D | Spicer Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14E | Spicer Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14F | Spicer Street    | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14G | Klien Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14H | Klien Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 3,568   | 1999              | 2008            | 2079                      | 38                            |
| 14I | Klien Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1999              | 2008            | 2079                      | 49                            |
| 14J | Klien Street     | M     |         | SANMH          | 1,200                     | 3.00      | B              | 4,636   | 1999              | 2008            | 2079                      | 49                            |
|     |                  |       |         |                |                           |           |                | 4,252,403                                     |                   |                 |                           | 76,019                        |

TABLE A-5  
MUNICIPALITY OF PORT HOPE  
Other Wastewater Assets Inventory, 2009

| Asset Name                                       | Year | Historic Cost | Useful Life | Replacement Cost | Basis             | Deflator Index | Estimated Replacement Year | Replacement Cost | Annual Lifecycle Contribution |
|--|------|---------------|-------------|------------------|-------------------|----------------|----------------------------|------------------|-------------------------------|
| SEWAGE TREATMENT PLANT                           | 1956 | 1.00          | 50          | 10,017,800       | 2007 Insurance    | 8.40%          | 2008                       | -                | Cap. Forecast                 |
| Sludge Storage Facility                          | 1991 | 325,634.00    | 50          |                  |                   | 51.77%         | 2041                       | 628,993          | 17,704                        |
| Sewage Treatment Plant (New 2008 WIP)            | 2008 | -             | 50          | 35,000,000       |                   | 99.01%         | 2010                       | 35,350,000       | Cap. Forecast                 |
| Mill Street Pumping Station                      | 1957 | 1.00          | 50          | 400,700          | 2007 TSH Review   | 8.67%          | 2008                       | 458,812          | Cap. Forecast                 |
| Mill Street Pumping Station - Betterment         | 2001 | 1,887,055.21  | 50          |                  |                   | 66.99%         | 2051                       | 2,817,072        | 57,380                        |
| AON (Penryn) Pumping Station                     | 2008 | 2,021,110.62  | 50          |                  |                   | 99.01%         | 2058                       | 2,041,322        | 34,431                        |
| Marsh Rd. Pumping Station                        | 2000 | 125,000.00    | 50          |                  |                   | 64.15%         | 2050                       | 194,868          | 4,086                         |
| Hope St PS - 2 - Flygt submersible pumps (20 HP) | 1988 | 50,000.00     | 30          | 50,000           | from AI Jun email | 49.56%         | 2018                       | 57,251           | Cap. Forecast                 |
| Hope St PS - Electrical panel                    | 1988 | 20,000.00     | 20          | 20,000           | from AI Jun email | 49.56%         | 2008                       | 22,901           | Cap. Forecast                 |
| Hope St PS - Concrete wet well                   | 1988 | 200,000.00    | 50          | 200,000          | from AI Jun email | 49.56%         | 2038                       | 229,005          | 7,230                         |
| Furniture - email from AI (Quote)                | 2008 | 29,598.48     | 15          |                  |                   | 99.01%         | 2023                       | 29,894           | 2,168                         |
| 4" diesel pump (Gorman-Rupp)                     | 2004 | 18,366.48     | 10          | 20,000           | estimate from AI  | 75.35%         | 2014                       | 22,901           | Cap. Forecast                 |
| 2007 GMC Sierra                                  | 2007 | 25,320.57     | 7           |                  |                   | 90.36%         | 2014                       | 28,021           | Cap. Forecast                 |
|  |      | 4,702,087.36  |             | 45,708,500.00    |                   |                |                            | 41,881,041       | 122,999                       |

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**APPENDIX B**  
**DETAILED WATER & WASTEWATER RATE CALCULATIONS**

Table 1  
MUNICIPALITY OF PORT HOPE  
WATER SERVICES CAPITAL BUDGET FORECAST  
2010-2020  
Inflated \$

| Project Description   | Total             | Year             |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
|---|-------------------|------------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|----------------|------------------|------------------|------------------|----------------|
|   |                   | 2010             | 2011           | 2012           | 2013           | 2014           | 2015             | 2016             | 2017             | 2018             | 2019           | 2020             |                  |                  |                |
| <b>Capital Expenditures</b>                                 |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| <i>Watermain Replacement - (Non-DC)</i>                     |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| Cavan/Highland-Jocelyn reconstruction                       | 1,361,691         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 1,361,691      |
| Cavan/Walton-Highland reconstruction                        | 1,203,503         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Ontario/Oxford-Orchard wm rehab                             | 192,023           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 192,023        |
| Mill/Madison-Peter wm                                       | 496,495           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 496,495        |
| Mill/Dorset-10 m south wm rehab                             | 128,016           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 128,016        |
| Hope/Howard-Beamish wm rehab                                | 217,627           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 217,627        |
| Ridout/Toronto-Bramley wm rehab                             | 256,031           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 256,031        |
| Peter/Ziratico-Hamilton wm rehab                            | 438,817           | -                | -              | -              | 438,817        | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Peter/Ziratico-Hamilton wm rehab                            | 310,309           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 310,309        |
| Tretusis/Fraser-PerGalv wm rehab                            | 396,004           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 396,004        |
| Bruion/Toronto-Julia wm rehab                               | 396,004           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 396,004        |
| Brown/Walton-Bedford rehab                                  | 60,175            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 60,175         |
| Pine/Walton-Bedford wm rehab                                | 62,062            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 62,062         |
| Hay/Harris-Elizabeth wm rehab                               | 198,044           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 198,044        |
| Harris/Hay-Alexander wm rehab                               | 264,059           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 264,059        |
| Alexandre/Hayward-Catherine wm rehab                        | 169,716           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 169,716        |
| William/King-Hope wm rehab                                  | 56,572            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 56,572         |
| Francis/Hope-Elgin wm rehab                                 | 136,169           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 136,169        |
| King/Madison-Peter wm                                       | 106,369           | -                | -              | 106,369        | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Madison/Mill-King road wm                                   | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Peter/King-Nelson wm replacement                            | 400,000           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 400,000        |
| Charles/West-Eng-Victoria wm rehab                          | 400,000           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 400,000        |
| Charles/Bramley-Church wm rehab                             | 51,568            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 51,568         |
| Silver wm rehab   | 496,495           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 496,495        |
| Elgin/Ward-Croft reconstruction                             | 700,149           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 700,149        |
| King/Peter - Ward wm rehab                                  | 93,353            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 93,353         |
| Armour/Mill-King wm rehab                                   | 300,000           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 300,000        |
| Catherine/Elizabeth/Percy Street wm rehab                   | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| <b>Watermain Replacement - (DC-Related)</b>                 |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| Toronto/Ridout-Arthur wm improvements                       | 591,400           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 591,400        |
| Victoria/Strachan-Ridout wm improvements                    | 91,111            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 91,111         |
| Marsh/0.29 W of Rapley-Rapley wm improvements               | 256,031           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 256,031        |
| Lakeshore/CNR-Toronto wm improvements                       | 322,575           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 322,575        |
| Hope/Shuter-CPR wm improvements (2/3 Grant Funded)          | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Hamilton/Peter-Ward new trunk watermain                     | 513,793           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 513,793        |
| Dorset/Bramley-John Interim wm rehab                        | 485,285           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 485,285        |
| Arthur/Toronto-Victoria wm rehab                            | 433,600           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 433,600        |
| Business Park   | 307,805           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 307,805        |
| <b>Vehicles &amp; Equipment</b>                             |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| <i>Water Treatment - (Non-DC)</i>                           |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| Security Fencing for existing WTP, Water Dist., and new WTP | 175,142           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 175,142        |
| Joint Operations Centre                                     | 35,286            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 35,286         |
| Jocelyn Reservoir Inspection                                | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Dorset/St. Standpipe Rehab                                  | 40,000            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 40,000         |
| Raw Water Sample Line                                       | 1,189,733         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 1,189,733      |
| Catholic Protection Program Annual                          | 64,000            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 64,000         |
| DWQMS   | 65,000            | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 65,000         |
| Valve Maintenance Trailer                                   | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| <i>Water Treatment - (DC Related)</i>                       |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| Water Tower (New Tower/Reservoir)                           | 408,507           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 408,507        |
| Zenon Membrane Upgrades                                     | 466,766           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 466,766        |
| 2005 GE Zenon membrane modules (total replacement)          | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| <b>Total Capital Expenditures</b>                           | <b>14,325,330</b> | <b>2,376,027</b> | <b>196,989</b> | <b>218,801</b> | <b>625,314</b> | <b>736,002</b> | <b>1,924,943</b> | <b>1,487,054</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> | <b>2,647,554</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> |
| <b>Capital Financing</b>                                    |                   |                  |                |                |                |                |                  |                  |                  |                  |                |                  |                  |                  |                |
| Provincial Grants and Other Funding                         | 195,346           | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 195,346        |
| Transfer from DC Reserves                                   | 2,958,550         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 2,958,550      |
| Debt Service Requirements (Rate-related)                    | 1,157,249         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 1,157,249      |
| Debt Service Requirements (DC-related)                      | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Self-Funding (Rate-related)                                 | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Self-Funding (DC-related)                                   | -                 | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | -              |
| Operating Contributions                                     | 7,214,185         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 7,214,185      |
| Water Reserves  | 2,800,000         | -                | -              | -              | -              | -              | -                | -                | -                | -                | -              | -                | -                | -                | 2,800,000      |
| <b>Total Capital Financing</b>                              | <b>14,325,330</b> | <b>2,376,027</b> | <b>196,989</b> | <b>218,801</b> | <b>625,314</b> | <b>736,002</b> | <b>1,924,943</b> | <b>1,487,054</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> | <b>2,647,554</b> | <b>1,812,061</b> | <b>1,664,203</b> | <b>636,382</b> |



Table 4  
MUNICIPALITY OF PORT HOPE  
RESERVES & RESERVE FUND CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

|                           | 2009      | 2010      | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------------------------|-----------|-----------|------|------|------|------|------|------|------|------|------|------|
| <b>Water Reserve Fund</b> |           |           |      |      |      |      |      |      |      |      |      |      |
| Opening Balance           | 52,612    | (209,095) | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Income                    | 73,433    | 209,095   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Transfer to Operating     | 327,098   | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Transfer to Capital       | -         | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Closing Balance           | (201,053) | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Interest                  | (6,042)   | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |

Table 5  
MUNICIPALITY OF PORT HOPE  
LIFECYCLE RESERVE CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

|                                     | 2009 | 2010 | 2011    | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |
|-------------------------------------|------|------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Water Lifecycle Reserve Fund</b> |      |      |         |           |           |           |           |           |           |           |           |           |
| Opening Balance                     | -    | -    | -       | 626,961   | 1,273,231 | 1,844,635 | 2,043,827 | 2,376,588 | 2,393,925 | 2,462,435 | 2,549,546 | 3,628,967 |
| Income                              | -    | -    | 602,847 | 597,300   | 308,149   | 320,583   | 241,353   | 625,263   | 673,801   | 685,051   | 1,132,154 | 957,309   |
| Transfer to Operating               | -    | -    | -       | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| Transfer to Capital                 | -    | -    | -       | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| Closing Balance                     | -    | -    | 602,847 | 1,224,260 | 1,581,380 | 1,965,218 | 2,285,181 | 2,301,851 | 2,367,726 | 2,451,486 | 3,681,699 | 4,086,277 |
| Interest                            | -    | -    | 24,114  | 48,970    | 63,255    | 78,609    | 91,407    | 92,074    | 94,709    | 98,059    | 147,268   | 163,451   |

Table 6  
MUNICIPALITY OF PORT HOPE  
WORKING FUND (SELF-FUNDING) CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

|                                  | 2009        | 2010        | 2011        | 2012        | 2013        | 2014        | 2015        | 2016      | 2017      | 2018      | 2019      | 2020      |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|
| <b>Working Fund</b>              |             |             |             |             |             |             |             |           |           |           |           |           |
| Opening Balance                  | (1,360,392) | (1,808,839) | (1,674,715) | (1,535,226) | (1,390,158) | (1,230,287) | (1,082,382) | (919,200) | (749,491) | (572,993) | (389,436) | (196,536) |
| Income (Incl. Repayment from DC) | 3,690,448   | 196,536     | 198,536     | 196,536     | 198,536     | 198,536     | 198,536     | 198,536   | 198,536   | 198,536   | 198,536   | 198,536   |
| Transfer to Operating            | -           | -           | -           | -           | -           | -           | -           | -         | -         | -         | -         | -         |
| Transfer to Capital              | 4,059,324   | -           | -           | -           | -           | -           | -           | -         | -         | -         | -         | -         |
| Closing Balance                  | (1,739,268) | (1,610,303) | (1,476,179) | (1,336,691) | (1,191,623) | (1,040,752) | (883,846)   | (720,664) | (550,955) | (374,457) | (190,900) | 0         |
| Interest                         | (69,571)    | (64,412)    | (59,047)    | (53,468)    | (47,665)    | (41,630)    | (35,354)    | (28,827)  | (22,038)  | (14,978)  | (7,636)   | 0         |

Table 7  
MUNICIPALITY OF PORT HOPE  
DEVELOPMENT CHARGE RESERVE FUND CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

|                            | 2009        | 2010        | 2011        | 2012        | 2013        | 2014        | 2015        | 2016        | 2017        | 2018        | 2019        | 2020        |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>DC Reserve Fund</b>     |             |             |             |             |             |             |             |             |             |             |             |             |
| Opening Balance            | 81,100      | (3,928,138) | (4,491,918) | (4,476,350) | (4,398,830) | (4,307,994) | (4,202,919) | (5,106,783) | (5,115,310) | (5,353,380) | (5,296,484) | (5,182,385) |
| Income                     | 298,102     | 182,221     | 237,445     | 295,953     | 305,232     | 314,803     | 324,673     | 334,853     | 345,352     | 356,180     | 367,248     | 378,886     |
| Transfer to Capital        | 452,350     | 523,432     | -           | -           | -           | -           | -           | 91,111      | 322,575     | 40,965      | -           | 999,908     |
| DC Credits                 | -           | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      | 22,976      |
| Debt Repayment             | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           |
| Repayment of Working Funds | 3,690,448   | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           |
| Transfer to Operating      | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           | -           |
| Closing Balance            | (3,753,596) | (4,292,325) | (4,277,449) | (4,203,373) | (4,116,573) | (4,016,167) | (4,881,780) | (4,888,017) | (5,115,509) | (5,061,141) | (4,952,112) | (5,826,402) |
| Interest                   | (174,542)   | (199,593)   | (198,901)   | (195,457)   | (191,421)   | (186,752)   | (227,003)   | (227,293)   | (237,871)   | (235,343)   | (230,273)   | (270,928)   |



TABLE 9  
MUNICIPALITY OF PORT HOPE  
WATER RATE FORECAST  
2009 Budget & 2010-2020 Forecast

| CONSUMPTIVE RATE FORECAST  | Budget<br>2009 | Year      |           |           |           |           |           |           |           |           |           |           |
|--|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|  |                | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |
| Water Billing Recovery   | 1,517,456      | 2,565,803 | 2,685,279 | 2,816,191 | 2,961,409 | 3,111,270 | 3,268,066 | 3,432,102 | 3,603,695 | 3,783,176 | 3,970,890 | 4,139,863 |
| Water Consumption by Interval  |                |           |           |           |           |           |           |           |           |           |           |           |
| 0-20   | 278,190        | 280,110   | 284,670   | 290,830   | 297,790   | 304,750   | 311,710   | 318,670   | 325,630   | 332,590   | 339,550   | 342,990   |
| 21-60  | 325,496        | 329,336   | 338,456   | 350,776   | 364,696   | 378,616   | 392,536   | 406,456   | 420,376   | 434,296   | 448,216   | 465,096   |
| 60-and greater   | 1,006,478      | 1,008,038 | 1,011,158 | 1,014,278 | 1,017,398 | 1,020,518 | 1,023,638 | 1,026,758 | 1,029,878 | 1,032,998 | 1,036,118 | 1,037,678 |
| Total Water Consumption (m <sup>3</sup> )                              | 1,610,165      | 1,617,485 | 1,634,285 | 1,655,885 | 1,679,885 | 1,703,885 | 1,727,885 | 1,751,885 | 1,775,885 | 1,799,885 | 1,823,885 | 1,835,765 |
| Increasing Block Rate  |                |           |           |           |           |           |           |           |           |           |           |           |
| First Block - 0-20m <sup>3</sup> (\$/m <sup>3</sup> )                  | 0.80           | 1.16      | 1.21      | 1.25      | 1.30      | 1.35      | 1.40      | 1.45      | 1.50      | 1.56      | 1.62      | 1.68      |
| Second Block - 21m <sup>3</sup> -60m <sup>3</sup> (\$/m <sup>3</sup> ) | 0.89           | 1.46      | 1.51      | 1.57      | 1.62      | 1.68      | 1.75      | 1.81      | 1.88      | 1.95      | 2.02      | 2.10      |
| Third Block - Greater than 60 m <sup>3</sup> (\$/m <sup>3</sup> )      | 1.00           | 1.75      | 1.81      | 1.88      | 1.95      | 2.02      | 2.10      | 2.18      | 2.26      | 2.34      | 2.43      | 2.52      |



Table 11  
MUNICIPALITY OF PORT HOPE  
WASTEWATER SERVICES RATE-RELATED DEBENTURE AND DEBT CHARGES  
2010-2020  
Inflated \$

| Wastewater Debenture<br>Year     | Principal<br>(Inflated) | Year |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------------------------------|-------------------------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                  |                         | 2010 | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |         |         |         |         |         |         |         |         |
| 2009                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2010                             | 12,166,585              | -    | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 |
| 2011                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2012                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2013                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2014                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2015                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2016                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2017                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2018                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2019                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| 2020                             | -                       | -    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| <b>Total Annual Debt Charges</b> | <b>12,166,585</b>       | -    | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 | 947,516 |
| Interest Rate                    | 4.65%                   |      |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Term                             | 20                      |      |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

Table 12  
MUNICIPALITY OF PORT HOPE  
WASTEWATER SERVICES DC-RELATED DEBENTURE AND DEBT CHARGES  
2010-2020  
Inflated \$

| Wastewater Debenture<br>Year     | Principal<br>(Inflated) | Year |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|----------------------------------|-------------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                  |                         | 2010 | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |           |           |           |           |           |           |           |           |
| 2009                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2010                             | 13,121,272              | -    | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 |
| 2011                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2012                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2013                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2014                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2015                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2016                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2017                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2018                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2019                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2020                             | -                       | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| <b>Total Annual Debt Charges</b> | <b>13,121,272</b>       | -    | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 | 1,021,866 |
| Interest Rate                    | 4.65%                   |      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Term                             | 20                      |      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |

Table 13  
MUNICIPALITY OF PORT HOPE  
RESERVES & RESERVE FUND CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

| Wastewater Reserve Fund | Year      |           |      |      |      |      |      |      |      |      |      |      |
|-------------------------|-----------|-----------|------|------|------|------|------|------|------|------|------|------|
|                         | 2009      | 2010      | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Opening Balance         | 1,299,516 | 1,493,604 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Income                  | 421,700   | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Transfer to Operating   | 281,858   | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Transfer to Capital     | 3,200     | 1,493,604 | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Closing Balance         | 1,436,158 | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Interest                | 57,446    | -         | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |

Table 14  
MUNICIPALITY OF PORT HOPE  
LIFECYCLE RESERVE CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

| Wastewater Lifecycle Reserve Fund | Year |           |           |           |           |           |           |           |           |           |           |           |
|-----------------------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                   | 2009 | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |
| Opening Balance                   | -    | -         | 1,121,669 | 1,446,668 | 1,954,201 | 2,661,887 | 3,146,762 | 3,787,932 | 2,177,715 | 903,381   | 1,750,262 | 3,487,604 |
| Income                            | -    | 1,078,528 | 269,358   | 432,371   | 605,306   | 363,836   | 418,568   | 605,448   | 397,573   | 779,563   | 1,603,204 | 812,082   |
| Transfer to Operating             | -    | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| Transfer to Capital               | -    | -         | -         | -         | -         | -         | 500,000   | 1,700,000 | 1,706,052 | -         | -         | 2,300,000 |
| Closing Balance                   | -    | 1,078,528 | 1,391,027 | 1,879,039 | 2,559,507 | 3,025,723 | 3,065,320 | 2,093,380 | 868,636   | 1,682,944 | 3,353,466 | 1,999,686 |
| Interest                          | -    | 43,141    | 55,641    | 75,162    | 102,380   | 121,029   | 122,613   | 83,735    | 34,745    | 67,318    | 134,139   | 79,987    |

Table 15  
MUNICIPALITY OF PORT HOPE  
WORKING FUND (SELF-FUNDING) CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

| Working Fund          | Year      |           |           |           |           |           |           |           |           |           |           |          |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
|                       | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020     |
| Opening Balance       | (45,1025) | (780,000) | (722,164) | (662,014) | (599,458) | (534,400) | (466,740) | (396,374) | (323,192) | (247,084) | (167,931) | (85,612) |
| Income                | -         | 85,612    | 85,612    | 85,612    | 85,612    | 85,612    | 85,612    | 85,612    | 85,612    | 85,612    | 85,612    | 85,612   |
| Transfer to Operating | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -        |
| Transfer to Capital   | 298,975   | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -        |
| Closing Balance       | (750,000) | (694,388) | (636,552) | (576,402) | (513,847) | (448,789) | (381,128) | (310,762) | (237,580) | (161,472) | (82,319)  | 0        |
| Interest              | (30,000)  | (27,776)  | (25,462)  | (23,056)  | (20,554)  | (17,952)  | (15,245)  | (12,430)  | (9,503)   | (6,459)   | (3,293)   | 0        |

Table 16  
MUNICIPALITY OF PORT HOPE  
DEVELOPMENT CHARGE RESERVE FUND CONTINUITY SCHEDULE  
2009-2020  
Inflated \$

| DC Reserve Fund            | Year      |           |           |             |             |             |             |             |             |             |             |             |
|----------------------------|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | 2009      | 2010      | 2011      | 2012        | 2013        | 2014        | 2015        | 2016        | 2017        | 2018        | 2019        | 2020        |
| Opening Balance            | 1,102,690 | 1,153,965 | 232,641   | 711,552     | (1,570,990) | (2,450,988) | (3,351,893) | (4,274,049) | (5,217,798) | (6,183,476) | (7,214,285) | (8,226,803) |
| Income                     | -         | 352,424   | 488,438   | 591,381     | 609,924     | 629,047     | 648,771     | 669,113     | 690,092     | 711,729     | 734,045     | 757,061     |
| Transfer to Capital        | -         | 924,936   | -         | -           | -           | -           | -           | -           | -           | 40,965      | -           | -           |
| DC Credits                 | -         | 359,149   | 359,149   | 359,149     | 359,149     | 359,149     | 359,149     | 359,149     | 359,149     | 359,149     | 359,149     | 359,149     |
| Debt Repayment             | -         | -         | 1,021,866 | 1,021,866   | 1,021,866   | 1,021,866   | 1,021,866   | 1,021,866   | 1,021,866   | 1,021,866   | 1,021,866   | 1,021,866   |
| Repayment of Working Funds | -         | -         | -         | -           | -           | -           | -           | -           | -           | -           | -           | -           |
| Transfer to Operating      | -         | -         | -         | -           | -           | -           | -           | -           | -           | -           | -           | -           |
| Closing Balance            | 1,102,690 | 222,304   | (679,935) | (1,501,185) | (2,342,081) | (3,202,955) | (4,084,137) | (4,985,951) | (5,908,721) | (6,893,726) | (7,861,254) | (8,860,757) |
| Interest                   | 51,275    | 10,337    | (31,617)  | (69,805)    | (108,907)   | (148,937)   | (189,912)   | (231,847)   | (274,756)   | (320,558)   | (365,548)   | (411,560)   |

Table 17  
MUNICIPALITY OF PORT HOPE  
WASTEWATER OPERATING BUDGET FORECAST  
2009 Budget & 2010-2020 Forecast

| Description  | Budget           |                  | Forecast         |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|  | 2009             | 2010             | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |
| <b>Expenditures</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Administration and Overhead Costs                                      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Administration   | 4,100            | 4,193            | 4,287            | 4,384            | 4,483            | 4,584            | 4,687            | 4,793            | 4,901            | 5,012            | 5,125            | 5,241            |
| Communications   | 9,700            | 9,919            | 10,143           | 10,372           | 10,606           | 10,845           | 11,090           | 11,340           | 11,596           | 11,858           | 12,125           | 12,399           |
| Insurance  | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Utilities  | 360,000          | 368,124          | 376,431          | 384,926          | 393,612          | 402,494          | 411,577          | 420,865          | 430,362          | 440,074          | 450,004          | 460,159          |
| Conferences & Training   | 8,300            | 8,487            | 8,679            | 8,875            | 9,075            | 9,280            | 9,489            | 9,703            | 9,922            | 10,146           | 10,375           | 10,609           |
| New/Existing Debt (2010+ includes WW Portion of existing debt)         | -                | 80,357           | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        | 1,027,874        |
| Basecharge Reallocation  | (241,795)        | 474,760          | (469,603)        | (462,449)        | (453,399)        | (444,556)        | (435,927)        | (427,515)        | (419,325)        | (411,363)        | (403,633)        | (396,247)        |
| Subtotal-Admin. & Overhead Costs                                       | 140,305          | 945,840          | 957,810          | 973,960          | 992,250          | 1,010,520        | 1,028,790        | 1,047,060        | 1,065,330        | 1,083,600        | 1,101,870        | 1,120,035        |
| Residential Equivalent Users   | 4,474            | 4,504            | 4,561            | 4,638            | 4,725            | 4,812            | 4,899            | 4,986            | 5,073            | 5,160            | 5,247            | 5,334            |
| <b>Annual Base Charge/Res. User</b>                                    | <b>31.36</b>     | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    | <b>210.00</b>    |
| Quarterly Base Charge/Res. User  | 7.84             | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            | 52.50            |
| Monthly Base Charge/Res. User  | 2.61             | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            | 17.50            |
| Sanitary Sewer Operating Costs   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Salaries/Wages & Benefits (2010 incl. 1.3 cost Engineering Allocation) | 89,900           | 195,762          | 200,180          | 204,697          | 209,316          | 214,040          | 218,870          | 223,809          | 228,859          | 234,024          | 239,305          | 244,705          |
| Sanitary Sewer   | 119,000          | 121,685          | 124,431          | 127,239          | 130,111          | 133,047          | 136,049          | 139,119          | 142,259          | 145,469          | 148,751          | 152,108          |
| Buildings, Equip. & Maintenance  | 15,000           | 15,338           | 15,685           | 16,039           | 16,400           | 16,771           | 17,149           | 17,536           | 17,932           | 18,336           | 18,750           | 19,173           |
| Subtotal-Water Treatment Operating Costs                               | 223,900          | 332,786          | 340,296          | 347,975          | 355,827          | 363,857          | 372,068          | 380,464          | 389,050          | 397,823          | 406,806          | 415,987          |
| Pollution Control Operating Costs                                      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Salaries/Wages & Benefits  | 382,783          | 391,421          | 400,254          | 409,286          | 418,522          | 427,967          | 437,624          | 447,500          | 457,598          | 467,925          | 478,484          | 489,281          |
| Pollution Control  | 450,517          | 460,683          | 471,079          | 481,709          | 492,580          | 503,695          | 515,062          | 526,685          | 538,570          | 550,724          | 563,151          | 575,860          |
| Buildings, Equip. & Maintenance  | 161,500          | 165,144          | 168,871          | 172,682          | 176,579          | 180,563          | 184,638          | 188,805          | 193,065          | 197,422          | 201,877          | 206,433          |
| Vehicle Expenses   | 9,000            | 9,203            | 9,411            | 9,623            | 9,840            | 10,062           | 10,289           | 10,522           | 10,760           | 11,002           | 11,250           | 11,504           |
| Basecharge Reallocation  | 241,795          | (474,760)        | 469,603          | 462,449          | 453,399          | 444,556          | 435,927          | 427,515          | 419,325          | 411,363          | 403,633          | 396,247          |
| Subtotal-Operating Costs   | 1,245,595        | 551,692          | 1,519,218        | 1,535,750        | 1,550,920        | 1,566,845        | 1,583,541        | 1,601,026        | 1,619,318        | 1,638,435        | 1,658,396        | 1,679,324        |
| Capital Related Expenditures   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Transfers to Capital   | -                | -                | -                | -                | -                | 10,970           | 452,576          | 615,571          | 1,130,791        | 1,028,599        | 508,967          | 1,595,111        |
| Lifecycle Reserve Contribution   | -                | 1,078,528        | 269,358          | 432,371          | 605,306          | 363,836          | 418,568          | 605,448          | 397,573          | 779,563          | 1,603,204        | 812,082          |
| Repayment of Working Funds   | -                | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           | 85,612           |
| Contributions to Reserves/Reserve Funds                                | 421,700          | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Subtotal-Capital Related Expenditures                                  | 421,700          | 1,164,139        | 354,970          | 517,963          | 701,888          | 902,024          | 1,119,750        | 1,356,539        | 1,613,975        | 1,893,774        | 2,197,782        | 2,492,804        |
| <b>Total Expenditures</b>  | <b>1,891,195</b> | <b>2,048,617</b> | <b>2,214,484</b> | <b>2,401,708</b> | <b>2,608,636</b> | <b>2,832,725</b> | <b>3,075,359</b> | <b>3,339,028</b> | <b>3,622,343</b> | <b>3,930,038</b> | <b>4,262,985</b> | <b>4,588,115</b> |
| <b>Revenues</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Water Administration & Service Fees                                    | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Sewer Sales at Plant   | 24,000           | 24,542           | 25,095           | 25,662           | 26,241           | 26,833           | 27,438           | 28,058           | 28,691           | 29,338           | 30,000           | 30,677           |
| Transfer From Reserves/Reserve Funds                                   | 281,858          | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Investment Income  | 4,000            | 4,090            | 4,183            | 4,277            | 4,373            | 4,472            | 4,573            | 4,676            | 4,782            | 4,890            | 5,000            | 5,113            |
| Contribution From Working Funds  | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Other  | 3,500            | 3,579            | 3,660            | 3,742            | 3,827            | 3,913            | 4,001            | 4,092            | 4,184            | 4,278            | 4,375            | 4,474            |
| Development Charge Repayment   | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| <b>Total Revenue</b>   | <b>313,358</b>   | <b>32,211</b>    | <b>32,938</b>    | <b>33,691</b>    | <b>34,441</b>    | <b>35,218</b>    | <b>36,013</b>    | <b>36,826</b>    | <b>37,657</b>    | <b>38,506</b>    | <b>39,375</b>    | <b>40,264</b>    |
| <b>Sewer Billing Recovery</b>  | <b>1,577,837</b> | <b>2,016,406</b> | <b>2,181,546</b> | <b>2,368,027</b> | <b>2,574,195</b> | <b>2,797,507</b> | <b>3,039,346</b> | <b>3,301,203</b> | <b>3,584,686</b> | <b>3,891,531</b> | <b>4,223,609</b> | <b>4,547,851</b> |

TABLE 18  
MUNICIPALITY OF PORT HOPE  
WASTEWATER RATE FORECAST  
2009 Budget & 2010-2020 Forecast

|   | Budget<br>2009   | Year             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|--|
|   |                  | 2010             | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             |  |  |
| <b>CONSUMPTIVE RATE FORECAST</b>                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |
| Sewer Billing Recovery                            | 1,577,837        | 2,016,406        | 2,181,546        | 2,366,027        | 2,574,195        | 2,797,507        | 3,039,346        | 3,301,203        | 3,584,686        | 3,891,531        | 4,223,609        | 4,547,851        |  |  |
| Wastewater Customer Water Consumption by Interval |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |
| 0-60  | 227,545          | 229,465          | 234,025          | 240,185          | 247,145          | 254,105          | 261,065          | 268,025          | 274,985          | 281,945          | 288,905          | 292,345          |  |  |
| 61-340  | 255,851          | 259,691          | 268,811          | 281,131          | 295,051          | 308,971          | 322,891          | 336,811          | 350,731          | 364,651          | 378,571          | 385,451          |  |  |
| 341-and greater                                   | 861,948          | 863,508          | 866,628          | 869,748          | 872,868          | 875,988          | 879,108          | 882,228          | 885,348          | 888,468          | 891,588          | 893,148          |  |  |
| <b>Total Waste Water Flow (m3)</b>                | <b>1,345,345</b> | <b>1,352,665</b> | <b>1,369,465</b> | <b>1,391,065</b> | <b>1,415,065</b> | <b>1,439,065</b> | <b>1,463,065</b> | <b>1,487,065</b> | <b>1,511,065</b> | <b>1,535,065</b> | <b>1,559,065</b> | <b>1,570,945</b> |  |  |
| <b>Increasing Block Rate</b>                      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |  |  |
| First Block - 0-20m3 (\$/m3)                      | 0.99             | 1.09             | 1.17             | 1.25             | 1.34             | 1.43             | 1.53             | 1.64             | 1.76             | 1.88             | 2.01             | 2.15             |  |  |
| Second Block - 21m3-60m3 (\$/m3)                  | 1.09             | 1.36             | 1.46             | 1.56             | 1.67             | 1.79             | 1.92             | 2.05             | 2.19             | 2.35             | 2.51             | 2.69             |  |  |
| Third Block - Greater than 60 m3 (\$/m3)          | 1.24             | 1.64             | 1.75             | 1.87             | 2.01             | 2.15             | 2.30             | 2.46             | 2.63             | 2.82             | 3.02             | 3.23             |  |  |