



Finance Department
Treasury Office

Memorandum

TO: Committee of the Whole
FROM: Bill Hughes, Commissioner of Finance
DATE: June 16, 2016
RE: 2016 Nobleton Community Development Charge Bylaw Update and Draft Background Study

On April 21, 2016, the 2016 Nobleton Area-Specific Wastewater Development Charge Bylaw Update and Draft Background Study were tabled at Council. On May 19, 2016, a public meeting was held where no deputations were made.

The Nobleton Area-Specific Wastewater Draft Background Study accompanying this memorandum is identical to that which was previously tabled and reviewed by Council. It is being provided so that Committee members have a copy of the Background Study available when considering Report E.2.5, "2016 Nobleton Community Development Charge Bylaw and Draft Background Study-Township of King."

Bill Hughes,
Commissioner of Finance

BH/dc

Attachment (1)

#6788977

Region of York 2016 Nobleton Area-Specific Development Charge Background Study

As Released April 21, 2016



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 Planning for growth

Contents

	Page
Executive Summary	(i)
1. Introduction.....	1-1
2. Current Development Charge Policy	2-1
2.1 Bylaw and Schedule of Charges.....	2-1
2.2 Services Covered	2-1
2.3 Payment in any Particular Case.....	2-2
2.4 Timing of Development Charge Calculation and Payment	2-2
2.5 Indexing	2-3
2.6 Redevelopment Credit	2-3
2.7 Non-Statutory Exemptions	2-3
2.8 Phasing in of the Rates.....	2-5
2.9 Other Region of York Development Charge Bylaws Applicable in Nobleton	2-5
3. Anticipated Development.....	3-1
3.1 Description of the Area	3-1
3.2 Anticipated Development in Nobleton	3-1
3.2.1 Residential Development	3-1
3.2.2 Non-Residential Development	3-2
4. Development-related Servicing Requirements	4-1
5. Calculation of the Development Charge	5-1
5.1 Review of the 2011 Calculation	5-1
5.2 The 2016 Calculation	5-2
6. Bylaw Policy Considerations.....	6-1
7. Bylaw Approval Process	7-1
Appendix A – Long Term Capital and Operating Examination and Asset Management Plan	A-1
Appendix B – Proposed By-law	B-1

Executive Summary

1. This Background Study has been prepared pursuant to section 10 of the Development Charges Act, 1997 and in accordance with the changes from Bill 73, as amended. Together with the proposed bylaw, the study will be made available to the public more than two weeks prior to the public meeting, which is to be held on May 19, 2016. Further, the background study will be posted to the Region of York website at least sixty days prior to the passage of the development charge bylaw and remain there until the bylaw expires or is repealed.
2. The report provided herein represents the Regional Municipality of York's development charge background study for wastewater service in the Nobleton Community. The contents include the following:
 - Chapter 1 – Introduction and background;
 - Chapter 2 – Review of current Nobleton development charge bylaw;
 - Chapter 3 – Anticipated development for the Nobleton Community;
 - Chapter 4 – Development-Related Servicing Requirements;
 - Chapter 5 – Calculation of the development charge;
 - Chapter 6 – Bylaw policy considerations; and
 - Chapter 7 – Bylaw approval process.
3. The purpose of this study is to support a development charge calculation to recover the growth-related costs for the portion of the wastewater servicing in Nobleton which is under the Region's jurisdiction. The Region provides for wastewater treatment whereas the Township of King is responsible for the wastewater collection system. The Region has imposed area-specific development charges since 2006. The current development charge bylaw expires on September 20, 2016 and must be replaced to allow the Region to continue to recover the growth-related costs from new development.
4. A secondary plan (Township Official Plan Amendment #57) prepared for the community of Nobleton provided for population growth to 6,500 persons and also provided for employment opportunities. In order to accommodate this growth, a standalone wastewater treatment plant and forcemain was recommended to service both existing and future growth. The total cost of this work was advanced by a Nobleton developer group. The Region entered into a Development Charge

credit agreement with developer group. The share of costs benefiting new development was to be recovered from all benefiting landowners.

5. In 2006, an assessment of the existing and future population and employment (based upon a population equivalent) was prepared by Totten Sims Hubicki Ltd. and used to determine the growth and non-growth shares of the capital works as follows:

Item	Population Equivalent
Non-Growth	
Residential Lots	1,001
Residential Population	3,085
Non-Residential Population Equivalent	311
Total Non-Growth Population Equivalents	3,396
Growth	
Residential Lots	1,200
Residential Population	3,445
Non-Residential Population Equivalent	1,127
Total Growth Population Equivalents	4,572
Total	
Residential Lots	2,201
Residential Population	6,530
Non-Residential Population Equivalent	1,438
Total Population Equivalents	7,968

6. As of 2014, the total capital cost of the works was \$22.9 million, of which \$13.4 million (58.4%) was determined to benefit new growth. To date, \$9 million in credits/reimbursements have been provided to the Nobleton developer group as a result of the development that has occurred over the past five years. With indexing to September 2015, the amount remaining to be credited/reimbursed is \$4.5 million. This outstanding amount is to be recovered from the remaining development potential in the benefitting area.
7. The proposed rates for inclusion in the 2016 Nobleton area-specific development charge bylaw are shown below. The rates currently in effect are also noted.

	Rates Currently in Effect (indexed as of September 21, 2015)	2016 Calculation Rates
<u>Residential (per unit)</u>		
Single and Semi-detached	\$9,998	\$9,798
Multiple Unit Dwelling	\$8,963	\$8,419
Apartments - 650 square feet or larger	\$6,271	\$5,919
Apartments - Less than 650 square feet	\$4,319	\$4,310
<u>Non-Residential (per square foot of gross floor</u>		
Industrial/Office/Institutional	\$5.79	\$5.38
Retail	\$5.79	\$5.38

Note: The 2011 bylaw imposes apartment charges on the basis of number of bedrooms. For 2016, it is proposed that the charges for apartment units be calculated based on floor area, consistent with the Region-wide bylaw.

H:\York Region\Nobleton Area Specific\2016\DC Calc.xlsx\Calc

1. Introduction

Since 2006, the Region of York has imposed area-specific development charges in the Nobleton Community to recover the growth-related costs for the portion of the wastewater servicing which is under the Region's jurisdiction. The Community of Nobleton is located in the Township of King at Highway 27 and King Sideroad. The population of the community in 2006 was approximately 3,100 persons. Wastewater servicing within the community at that time was provided by on-site sewage systems, generally septic tanks and tile fields.

A secondary plan (Township Official Plan Amendment #57) prepared for the Community of Nobleton provided for an increase in the population of the Nobleton Study Area to 6,500. The secondary plan also provided for full municipal servicing of both existing and new development within Nobleton. In 2002, a Class Environmental Assessment was undertaken by Totten Sims Hubicki on behalf of the Region for wastewater servicing of the Nobleton Community. The selected wastewater system from that process provides a wastewater treatment plant and a treated effluent outlet pipe discharging into the Humber River (Main Branch). The money to fund this work was advanced by the Nobleton landowner group. The growth portion of the costs are to be recovered from all benefiting landowners through a development charge. The first area-specific development charge bylaw was passed in 2006.

The current development charge bylaw expires on September 20, 2016. In order to continue to recover the growth-related works from benefiting development, the Region must pass a new development charge bylaw. The Development Charges Act, 1997 as amended requires that a development charge background study be completed by Council before passing a development charge bylaw. Further details regarding the proposed process are provided in Chapter 7.

2. Current Development Charge Policy

2.1 Bylaw and Schedule of Charges

The Region of York first imposed area-specific development charges for wastewater works in the Nobleton Community on September 21, 2006 when Council enacted Bylaw No. DC-0006-2006-090. The Background Study supporting the bylaw calculated uniform development charges to be imposed on development within the Nobleton urban area over the buildout forecast horizon. The capital costs to be recovered were estimated to be \$19.1 million (2006 \$)

The 2006 bylaw was replaced on June 23, 2011 with By-Law No. 2011-36 which came into effect on September 21, 2011 and which, pursuant to subsection 8.1 of the bylaw, will expire no later than September 20, 2016. An updated development charge calculation was prepared for the 2011 bylaw based on revised cost estimates. The table below provides the rates at the time of bylaw passage and those in effect at the present time:

	Rates in Effect as of Bylaw Passage	Rates Currently In Effect (indexed as of September 21, 2015)
<u>Residential (per unit)</u>		
Single and Semi-detached	\$9,438	\$9,998
Multiple Unit Dwelling	\$8,461	\$8,963
Apartments - 2 Bedroom or more	\$5,920	\$6,271
Apartments - Less than 2 Bedroom	\$4,077	\$4,319
<u>Non-Residential (per square foot of gross floor area)</u>		
Industrial/Office/Institutional	\$5.47	\$5.79
Retail	\$5.47	\$5.79

H:\York Region\Nobleton Area Specific\2016\DC Calc.xlsx\current rates

The following sections set out the key policies of the current bylaw.

2.2 Services Covered

Section 2.1 of the bylaw states that the service for which the development charges are imposed is sewer works. Schedule A to the bylaw sets out the components of the service which are: forcemain and trunk sewers; sewage pumping stations; water pollution control plant; outfall and wetland; and engineering.

2.3 Payment in any Particular Case

In accordance with the Development Charges Act, 1997, section 2(2), a development charge is to be calculated, payable and collected where the development requires one or more of the following:

- a) the passing of a zoning by-law or of an amendment to a zoning by-law under section 34 of the Planning Act;
- b) the approval of a minor variance under Section 45 of the Planning Act;
- c) a conveyance of land to which a by-law passed under section 50(7) of the Planning Act applies;
- d) the approval of a plan of subdivision under Section 51 of the Planning Act;
- e) a consent under Section 53 of the Planning Act;
- f) the approval of a description under section 50 of the Condominium Act; or
- g) the issuing of a building permit under the Building Code Act, 1992 in relation to a building or structure.”

2.4 Timing of Development Charge Calculation and Payment

Sections 3.13 and 3.14 of the bylaw set out the rules with respect to timing of payment.

“3.13 Development charges imposed under this section are payable on the date on which a building permit is issued with respect to each dwelling unit, building or structure.

3.14 Despite subsection 3.13, development charges imposed under subsection 3.6 with respect to an approval of a residential plan of subdivision under section 51 of the *Planning Act*, are payable immediately upon the owner entering into the subdivision agreement respecting such plan of subdivision, on the basis of the following:

- (a) the proposed number and type of dwelling units in the final plan of subdivision; and
- (b) with respect to blocks in the plan of subdivision intended for future development, the maximum number and type of dwelling units permitted under the zoning in effect at the time of payment.”

2.5 Indexing

Section 5.1 of the bylaw provides for the mandatory annual indexing of the charges on the anniversary date of the bylaw in accordance with changes in the Statistics Canada Quarterly Construction Price Statistics.

2.6 Redevelopment Credit

Credit provisions for the demolition or conversion of existing buildings are set out in section 3.11 of the bylaw.

“3.11 Despite any other provision of this bylaw, where, as a result of the redevelopment of land, a building or structure existing on the land within 48 months prior to the date of payment of development charges in regard to such redevelopment was, or is to be demolished, in whole or in part, or converted from one principal use to another, in order to facilitate the redevelopment, the development charges otherwise payable with respect to such redevelopment shall be reduced by the following amounts:

- (a) in the case of a residential building or structure, or in the case of a mixed-use building or structure, the residential uses in the mixed-use building or structure, an amount calculated by multiplying the applicable development charge under subsection 3.6 of this bylaw by the number, according to type, of dwelling units that have been or will be demolished or converted to another principal use; and
- (b) in the case of a non-residential building or structure or, in the case of mixed-use building or structure, the non-residential uses in the mixed-use building or structure, an amount calculated by multiplying the applicable development charges under subsection 3.7, 3.8 or 3.9 of this bylaw by the gross floor area that has been or will be demolished or converted to another principal use;

provided that such amounts shall not exceed, in total, the amount of the development charges otherwise payable with respect to the redevelopment”.

2.7 Non-Statutory Exemptions

Subsection 3.5.1 of Development Charge Bylaw No. 2011-36 sets out a number of discretionary exemptions as follows:

- “(a) the relocation of a heritage house;
- (b) a building or structure used for a community use owned by a non-profit corporation;

- (c) land owned by and used for the purposes of a private school that is exempt from taxation under the *Assessment Act*;
- (d) lands, buildings or structures used or to be used for the purposes of a cemetery or burial ground exempt from taxation under the *Assessment Act*;
- (e) non-residential uses permitted pursuant to section 39 of the *Planning Act*;
- (f) the issuance of a building permit not resulting in the creation of additional non-residential gross floor area;
- (g) agricultural uses;
- (h) development creating or adding an accessory use or structure not exceeding 100 square metres of gross floor area; or
- (i) a public hospital receiving aid under the *Public Hospitals Act*⁹.

Further, as per Section 3.5.2:

“The provisions of subsection 3.5.1 shall only apply to exempt a development described in paragraph (a), (b) or (c) thereof from the payment of development charges if the Township of King does not collect development charges with respect to that type of development”.

Additional exemption provisions are included in Sections 3.10 and 3.12 as follows:

“3.10 Despite subsection 3.7, development charges shall not be imposed in respect of the gross floor area of a place of worship to a maximum of 5,000 square feet (or 464.5 square metres) or in respect of that portion of the gross floor area of a place of worship which is used as an area for worship, whichever is greater”.

“3.12 Despite any other provisions of this bylaw, if a development includes the enlargement of the gross floor area of an industrial, office or institutional building, the amount of the development charge that is payable in respect of the enlargement shall be calculated as follows:

- (a) If the gross floor area is enlarged by fifty percent or less, the amount of the development charge in respect of the enlargement is zero;
- (b) If the gross floor area is enlarged by more than fifty percent the amount of the development charge in respect of the enlargement is the amount of the development charge that would otherwise be payable multiplied by the fraction determined as follows:

- (i) determine the amount by which the enlargement exceeds fifty percent of the gross floor area before the enlargement; and
- (ii) divide the amount determined under paragraph (i) by the amount of the enlargement”.

2.8 Phasing in of the Rates

Bylaw No. 2011-36 did not provide for the phase-in of the schedule of development charges.

2.9 Other Region of York Development Charge Bylaws Applicable in Nobleton

In addition to charges under Bylaw No. 2011-36, development in Nobleton is also subject to the Region-wide development charge bylaw (Bylaw No. 2012-36) for services such as roads, water, regional transit, and police as well as the Region-wide GO Transit bylaw (Bylaw No. DC-0004-2001-097).

The combined development charges applicable for fully serviced development in the Nobleton community under the three bylaws are as follows:

- Single-detached residential - \$31,577 per unit;
- Industrial, office and institutional - \$17.22 per square foot of gross floor area; and,
- Retail - \$34.24 per square foot of gross floor area.

3. Anticipated Development

3.1 Description of the Area

Map 3-1 illustrates the location of the urban service boundary within the Community of Nobleton, hereafter referred to as the Nobleton Serviced Area. For the purposes of the development charge, an assessment of the amount of existing residential and non-residential development within this area, as well as potential population and employment growth was considered.

3.2 Anticipated Development in Nobleton

Table 3-1 provides a summary of the anticipated residential development for the Nobleton Serviced Area. Table 3-6 provides a summary of the non-residential development for the Nobleton Serviced Area. A more detailed description of the growth forecast and background assumptions used is set out in sections 3.2.1 and 3.2.2.

3.2.1 Residential Development

Tables 3-1 and 3-2 summarize existing households and population as of mid-2016 for the Nobleton Serviced Area, based on 2011 Census data plus recent development activity during the 2011 to 2016 period. Total 2016 households are estimated at 1,819, which generates a population of 5,511.

Table 3-3 presents a summary of future residential housing supply for the Nobleton Serviced Area, as obtained from the Township of King Planning Department, as of 2015. Based on this information, the total residential housing supply for the area is approximately 1,075 residential units, consisting of 87% low-density dwellings (i.e. single and semi-detached), 9% medium-density units (i.e. townhomes) and 4% high-density dwellings (i.e. apartments).¹

Table 3-4 provides a detailed analysis of the existing housing occupancy for the Township of King using custom Statistics Canada housing occupancy data by dwelling

¹ It is important to note that the future housing supply potential for the Nobleton Serviced Area represents a base case scenario. The Township of King has identified higher alternative housing supply scenarios for the Nobleton Serviced Area based on increased residential densities for specific vacant residentially designated greenfield areas (where appropriate). It is further noted that the supply inventory summarized in Table 3-3 excludes the deferred residential area.

age and structure type. Due to limitations in data, data for the Township of King was used for low-density dwelling occupancy levels. 2011 Census data for York Region was used to derive medium- and high-density dwelling occupancy levels. The larger sample size provides a more accurate representation of the housing occupancy trends within the Nobleton Serviced Area. York Region applies a different charge related to the occupancy levels on apartments based on their size.

Density Type	Persons Per Unit	Unit Mix	Weighted Persons Per Unit
Low Density	3.41	85%	2.90
Medium Density	2.93	10%	0.29
High Density	1.86	5%	0.09
Total Weighted Persons Per Unit			3.28

Table 3-2 summarizes the historical population and housing increase for the Nobleton Serviced Area over the 2016 to buildout period. Applying a weighted housing occupancy assumption of 3.28 persons per dwelling unit, the anticipated net population growth (including existing population decline) for the area is 1,079 persons from mid-2016 to buildout. This provides a total buildout population for the Nobleton Serviced Area of 6,590.

3.2.2 Non-Residential Development

Table 3-5 presents a summary of total non-residential land supply for the Nobleton Serviced Area, as obtained from the York Region Planning Department, as of early 2016. Based on this information, the total employment supply (i.e. buildout capacity) for the area is approximately 14 net acres of industrial lands and 3 net acres of commercial lands. Based on an employment density of 25 employees/net acre for industrial lands and 75 employees/net acres for commercial lands, this yields a total of 259 employment lands and 355 commercial employees. Of the total jobs forecast on employment lands, approximately 260 (75%) are anticipated to be in the industrial sector. Growth in institutional employment was calculated at 132 employees, assuming an institutional employment activity rate ratio of jobs to population of 5.5% at buildout.

Table 3-9 summarizes existing (2016) employment and forecast employment growth for the Nobleton Serviced Area in accordance with the identified supply of non-residential

lands. As of mid-2016, existing employment within the Nobleton Serviced Area was estimated as follows:

Primary	0
Work at Home	255
Industrial	177
Commercial/Population-Related	394
<u>Institutional</u>	<u>229</u>
Total ¹	1,055

Over the mid-2016 to buildout forecast period, employment within the Nobleton Serviced Area is forecast to increase by 881 employees. Based on an existing (mid-2016) employment estimate of 1,055, this provides a total employment forecast of 1,936 at buildout. Total gross floor area requirements were generated based on the following square feet per employee density assumptions:

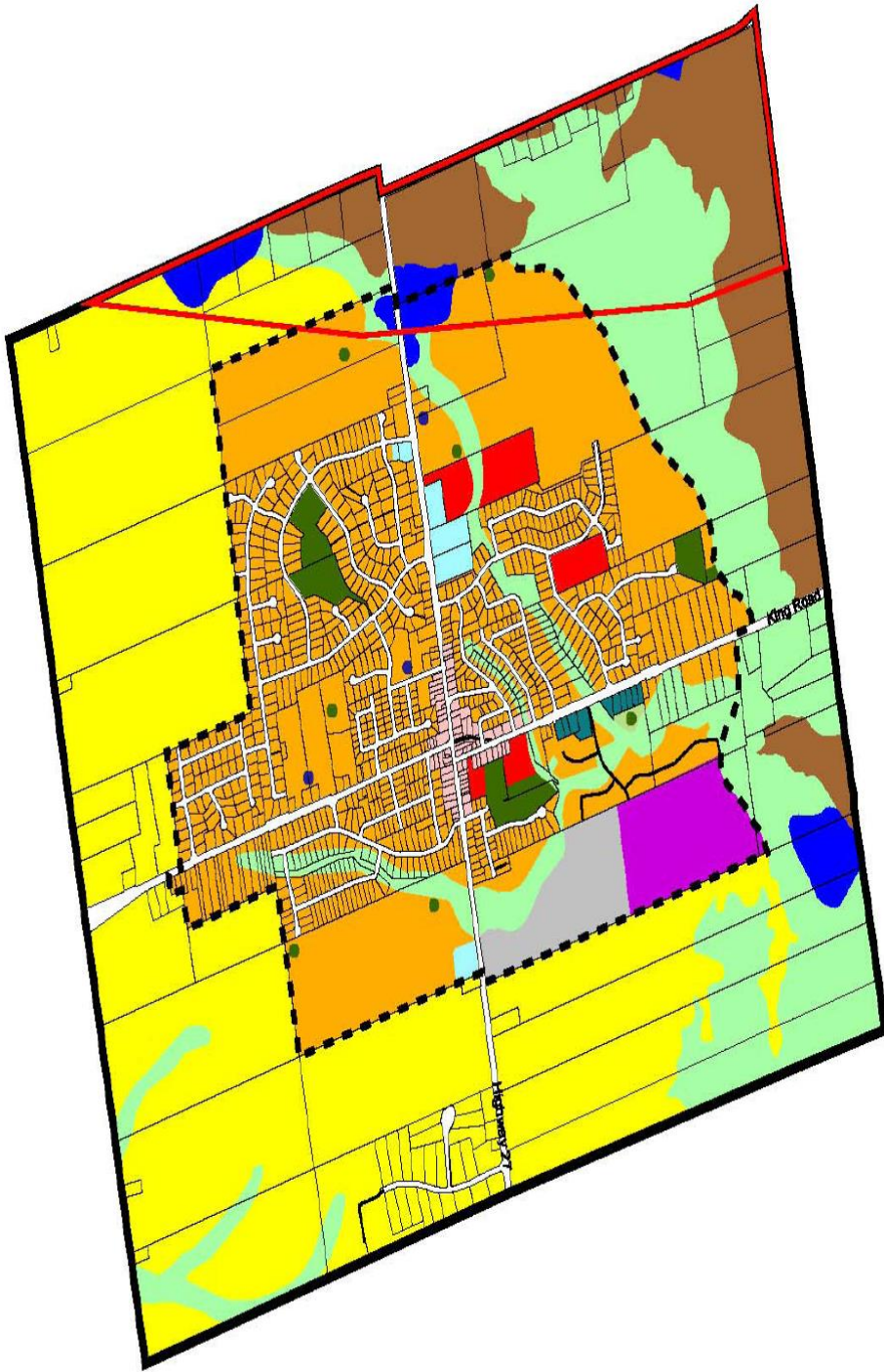
- Industrial² - 1,300 square feet/employee
- Commercial - 400 square feet/employee
- Institutional - 700 square feet/employee


Based on the above employment density assumptions, total non-residential gross floor area is anticipated to increase for the Nobleton Serviced Area by 570,500 square feet, of which 59% is comprised of industrial development, 25% commercial/population-related development and 16% institutional-related development.

¹ As estimated by Watson & Associates Economists Ltd. in conjunction with Region of York Department. of Planning and Development Services, 2016.

² Average number of square feet per employee for the industrial sector has been increased from 1,000 square feet/employee to 1,300 square feet/employee based on a review of recent industrial development activity across York Region.

Map 3-1




 **Township of King**

**Schedule A
for Nobleton Community Plan
Land Use Plan**

Community Plan Boundary
Existing Roads
Nobleton Urban Area Boundary
Oak Ridge Moraine Settlement Area and Amendment Boundary
(Source: MMA, February 2006)

Land Use

- Agricultural Area
- Business Area
- Commercial
- Deferred Residential
- Highway Service Commercial Area
- Institutional
- Natural Heritage
- Park-Existing
- Park-Future
- Residential
- Rural Area
- Village Core
- Wetland
- Medium Density Area
- Park-Future

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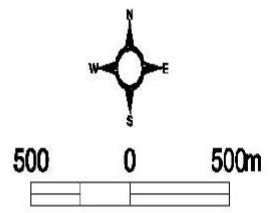


Table 3-1
Nobleton Serviced Area
Population Forecast Summary, Mid-2016 to Buildout

Year	Population ¹	Low-density ²	Medium-density ³	High-density ⁴	Total	Persons Per Unit
2016 ⁵	5,511	1,701	68	50	1,819	3.03
Buildout ⁶	6,590	2,018	105	69	2,192	3.01
Incremental Growth						
2016-Buildout	1,079	317	37	19	373	

Sources:

1. Excludes net Census undercount of approximately 4%
2. Includes single and semi-detached homes.
3. Includes townhomes.
4. Includes apartments.
5. 2016 population and housing base derived by Watson & Associates Economists Ltd. in consultation with the Township of King.
6. Buildout population for Nobleton Serviced Area based on Nobleton Community Plan, Township of King Office Consolidation February, 2005. Amendment No. 57 to the Official Plan for the Township of King Planning Area. An additional 90 persons is anticipated through plant optimization as authorized by the Region of York.

**Table 3-2
Nobleton Serviced Area
Mid-2016 to Buildout Growth Forecast**

		POPULATION
Urban Population to Mid-2016 (1)		5,511
Occupants of New Urban Housing Units Mid-2016 to Buildout	<i>Units (2)</i>	373
	<i>multiplied by persons per unit (3)</i>	3.28
		1,225
Decline in Urban Housing Unit Occupancy, Mid-2016 to Buildout	<i>Units (4)</i>	1,819
	<i>multiplied by persons per unit decline</i>	-0.0805
	<i>total decline in population</i>	-146
Urban Population Estimate to Buildout		6,590
<i>Net Urban Population Increase, Mid-2016 to Buildout</i>		1,079

- (1) 2016 population and housing base derived by Watson & Associates Economists Ltd. in consultation with the Township of King.
(2) Based upon building permits, assuming a six-month lag between construction and occupancy.
(3) Average number of persons per unit is assumed to be:

Structural Type	Persons Per Unit ¹	% Distribution of Estimated Units ²	Weighted Persons Per Unit Average
<i>Singles and Semi-detached</i>	3.41	85%	2.90
<i>Multiples (6)</i>	2.93	10%	0.29
<i>Apartments (7)</i>	1.86	5%	0.09
<i>Apartments less than 650 square feet</i>	1.50		
<i>Apartments greater than 650 square feet</i>	2.06		
Total		100%	3.28

¹ Based on 2011 Census custom database.

² Based on building permit activity.

- (4) Decline occurs due to aging of the population and family lifecycle changes, lower fertility rates and changing economic conditions.
(5) Includes townhomes.
(6) Includes apartments.

**Table 3-3
Nobleton Serviced Area
Housing Supply**

Stage of Development	Intensification ¹			
	Low-density ³	Medium-density ⁴	High-density ⁵	Total
Under Construction/Approved	3	28	6	37
Registered	0	0	0	0
Proposed	125	32	0	157
Designated	96	0	40	136
Total	224	60	46	330
% Mix by Density Type	68%	18%	14%	100%
Stage of Development	Greenfield ²			
	Low-density ³	Medium-density ⁴	High-density ⁵	Total
Under Construction/Approved	150	38	0	188
Registered	207	0	0	207
Proposed	27	0	0	27
Designated	323	0	0	323
Total	707	38	0	745
% Mix by Density Type	95%	5%	0%	100%
Stage of Development	Total			
	Low-density ³	Medium-density ⁴	High-density ⁵	Total
Under Construction/Approved	153	66	6	225
Registered	207	0	0	207
Proposed	152	32	0	184
Designated	419	0	40	459
Total	931	98	46	1075
% Mix by Density Type	87%	9%	4%	100%

Source: Prepared by Township of King Planning Department as of May 2015.

1. Located within delineated Built Boundary as determined by the Minister of Public Infrastructure.
2. Located within the Urban Area Boundary but outside of the delineated Built Boundary.
3. Includes single and semi-detached homes.
4. Includes townhomes.
5. Includes apartments.

Table 3-4
Nobleton Serviced Area
Residential Occupancy Data by Dwelling Type and Age, 2011

Age of Dwelling	Singles and Semi-detached ⁴						Adjusted Persons Per Unit ¹	15-year Average
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	-	-	2.960	-	2.960	2.96	
6-10	-	-	2.625	3.515	4.000	3.542	3.54	
11-15	-	-	-	3.558	4.500	3.736	3.74	3.41
16-20	-	-	4.833	2.979	-	3.182	3.18	
20-25	-	-	-	3.406	4.211	3.533	3.53	
25-35	-	-	3.000	3.297	4.333	3.381	3.38	
35+	-	1.500	2.046	2.778	3.888	2.791	2.79	
Total	-	1.500	2.324	3.002	4.028	3.044		

Age of Dwelling	Multiples ^{2,5}						Adjusted Persons Per Unit ¹	15-year Average
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	1.986	2.358	2.906	2.800	2.793	2.77	
6-10	-	2.727	2.382	3.084	4.480	3.020	3.01	
11-15	-	2.410	2.249	3.097	4.409	3.027	3.02	2.93
16-20	-	2.055	2.222	3.136	4.167	2.976	2.97	
20-25	-	2.015	2.388	3.229	4.033	3.161	3.16	
25-35	-	1.429	2.529	3.265	5.087	3.183	3.18	
35+	-	1.442	2.117	2.858	3.519	2.680	2.68	
Total	-	1.878	2.302	3.051	4.123	2.952		

Age of Dwelling	Apartments ^{3,5}						Adjusted Persons Per Unit ¹	15-year Average
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total		
1-5	-	1.552	2.038	2.571	-	1.814	1.81	
6-10	-	1.519	2.034	2.800	-	1.910	1.91	
11-15	-	1.538	1.871	3.000	-	1.859	1.86	1.86
16-20	-	1.317	1.897	3.071	-	1.815	1.82	
20-25	-	1.453	1.894	2.803	-	1.878	1.88	
25-35	-	1.414	2.034	2.744	-	1.949	1.95	
35+	-	1.305	2.012	2.579	3.000	1.851	1.85	
Total	-	1.437	1.972	2.705	3.000	1.859		

Age of Dwelling	All Density Types					
	< 1 BR	1 BR	2 BR	3/4 BR	5+ BR	Total
1-5	-	1.612	2.215	3.366	4.340	3.135
6-10	-	1.794	2.297	3.540	4.454	3.429
11-15	-	1.828	2.255	3.462	4.505	3.408
16-20	-	1.607	2.057	3.520	4.189	3.296
20-25	-	1.745	2.041	3.404	4.188	3.310
25-35	-	1.598	2.329	3.271	4.239	3.242
35+	-	1.438	2.104	2.873	3.732	2.713
Total	-	1.605	2.168	3.315	4.211	3.177

1. The Census persons per unit has been adjusted to account for the downward persons per unit trend which has been recently experienced in both new and older units, largely due to the aging of the population.

2. Includes townhomes and apartments in duplexes.

3. Includes bachelor, 1 bedroom and 2 bedroom+ apartments.

4. Derived from Township of King 2011 Custom Statistics Canada dataset.

5. Derived from York Region 2011 Custom Statistics Canada dataset.

Note: Does not include Statistics Canada data classified as "Other."

Persons per unit not calculated for samples less than or equal to 50 dwelling units, and does not include institutional population.

**Table 3-5
Nobleton Serviced Area
Industrial and Commercial Employment Lands Capacity**

Non-Residential Land Area Capacity	Gross Acres	Net Acres 80% of Gross	Employment Density (Employee/ Net Acre)	Total Employment Forecast	Employment Share		
					Industrial	Commercial	Institutional
Employment Land	17.24	13.792	25	344.8	259	72	14
Commercial Land	3.875	3.1	75	233	0	233	0
Village Core and Highway Commercial Expansions			75	50	0	50	0
Total Employment				627	259	355	14

Source: Watson & Associates Economists Ltd. in conjunction with York Region Planning Department.

**Table 3-6
Nobleton Serviced Area
Employment Forecast
Mid-2016 to Buildout**

Year/Forecast Period	Population	Activity Rate						Employment					Square Feet (Estimate) ³				
		Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	Primary	Work at Home	Industrial	Commercial/ Population Related	Institutional	Total	Industrial	Commercial/ Population Related	Institutional	Total
2016 ¹	5,511	0.000	0.046	0.032	0.072	0.041	0.191	0	255	177	394	229	1,055				
Buildout ²	6,590	0.000	0.059	0.066	0.114	0.055	0.294	0	390	436	749	361	1,936				
Incremental Change																	
2016-Buildout	1,079	0.000	0.013	0.034	0.042	0.013	0.102	0	135	259	355	132	881	336,200	141,900	92,400	570,500

Sources:

1. 2016 employment derived by Watson & Associates Economists Ltd. from 2015 York Region Employment Survey.

2. Buildout employment derived by Watson & Associates Economists Ltd. in consultation with York Region.

3. Square Foot Per Employee Assumption

Industrial	1,300
Commercial/Population Related	400
Institutional	700

4. Development-related Servicing Requirements

As noted in Chapter 1, a Class Environmental Assessment was undertaken in 2002 by Totten Sims Hubicki on behalf of the Region for the provision of wastewater service for the Nobleton Community. The recommendations arising from that process was for wastewater treatment facilities to be built with a treated effluent outlet pipe discharging into the Humber River (Main Branch).

This background studies incorporates the works within the Region of York jurisdiction, primarily, waste water treatment. The Township of King's costs related to the collection system were considered within a Township-lead process.

Table 4-1 summarizes the final costing associated with the treatment facility, the forcemain and pumping station, and costs for associated easements, road reinstatement works, etc. The 2011 cost estimates are provided for comparison purposes. In 2011, the estimated total project cost for the Nobleton wastewater services was \$23.1 million and as of 2014, the costs have been updated to \$22.9 million. The approximate \$200,000 reduction is a combination of the net effect of project scope changes and the deletion of the wastewater haulage component of the project.

**Table 4-1
Final Development Charge Eligible Project Costs**

Category	Description	2011 Cost Estimate	Final Cost (2014)	Difference
<u>Construction</u>				
Discrete Works	Water Pollution Control Plant	\$13,514,628	} \$15,123,164	
	Sewage Pumping Station	\$2,500,000		
	Outfall and Wetland	\$900,000		
	Development Charge Eligible Additional Work		\$1,332,934	
	Subtotal	\$16,914,628	\$16,456,098	-\$458,530
Linear Works	Forcemain		\$1,666,959	
	Development Charge Eligible adjustments made during construction		\$169,553	
	Sewermain		\$998,054	
	Subtotal	\$3,365,109	\$2,834,566	-\$530,543
Non-Construction	Engineering and Project Management	\$2,823,317	\$2,960,367	
	Property		\$459,200	
	Phosphorous Offset		\$203,628	
	Subtotal	\$2,823,317	\$3,623,195	\$799,878
	Total	\$23,103,054	\$22,913,859	-\$189,195

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5. Calculation of the Development Charge

5.1 Review of the 2011 Calculation

According to the 2011 report “Nobleton Area-Specific Development Charge Background Study”, the total of the Region’s costs related specifically to servicing Nobleton total were \$23,103,054. The development charge recoverable amount was generally allocated between new residential and non-residential development based on number of population equivalents whereby the non-residential development was converted to population equivalents.

The non-growth and growth development represented on a population equivalent basis is presented below:

**Table 5-1
Nobleton Wastewater Service Area
Population and Land Use**

Item	Population Equivalents	%
Existing		
Residential Lots	1,001	
Residential Population	3,085	
Non-Residential Population Equivalent	311	
Total Existing Population Equivalents	3,396	42.6%
Growth		
Residential Lots	1,200	
Residential Population	3,445	
Non-Residential Population Equivalent	1,127	
Total Future Population Equivalents	4,572	57.4%
Total		
Residential Lots	2,201	
Residential Population	6,530	
Non-Residential Population Equivalent	1,438	
Total Population Equivalents	7,968	100.0%

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A growth share of 57.4% was applied to the majority of the works, corresponding to the ratio of existing development to new development. However, based on an analysis by Totten, Sims, Hubicki, several cost components were assigned a different growth percentage reflecting the specific nature of the item. This resulted in an overall growth share of 58.4%. Therefore, 41.6% of the total project cost was attributed to the cost of

providing services to existing development. The remaining 58.4% was to be recovered from new development.

Thus the 2011 development charge recoverable shares were calculated as follows:

Total Capital Cost	\$23,103,054
Less non-growth share (41.6%)	<u>\$9,616,491</u>
Development Charge Recoverable Share (58.4%)	\$13,486,563
Attributable to Residential growth (75.4%)	\$10,163,106
Attributable to Non-residential growth (24.6%)	\$3,323,457

Once the residential and non-residential development charge recoverable shares were determined, a further adjustment was made to the calculation to reflect the development that had paid development charges to date. Development charges are payable at the time of subdivision registration and the landowners who had advanced the funds to finance the capital works registered a total of 698 units (660 singles and 38 multiples) which was equal to \$5,695,488 in development charge payments. Thus, the net development charge recoverable amounts were as follows:

Details	Residential	Non-residential	Total
Agreement Credit Amount	10,163,106	3,323,457	\$13,486,563
Less Development Charge Payments made to date	(\$5,695,488)		(\$5,695,488)
Net Recoverable for Growth Development	\$4,467,618	\$3,323,457	\$7,791,075

5.2 The 2016 Calculation

For 2016, a similar calculation has been made. The development charge recoverable amount has been updated to reflect the final project costs, indexing and development charge collections since 2011.

As discussed in Chapter 4, the 2014 final cost of the development charge eligible works was \$22.91 million. This updated cost was used in the 2016 calculation. Of this amount, the development charge recoverable share was \$13.38 million (58.4%). To date, \$9.0 million in credits/reimbursements have been provided.

As of the end of December, the amount remaining to be reimbursed/credited is \$4,530,623 (2015 \$) including indexing and the cost of the 2016 development charge

study (i.e. \$25,500). Of this total, the residential share is \$1,462,490 and the non-residential share is \$3,068,133. These amounts are allocated over the potential remaining development within the benefiting area which has been calculated by deducting growth that has occurred since 2011. In the case of residential development, this includes growth that has prepaid development charges since 2011 as shown in Table 5-2.

Table 5-2
Calculation of Gross Population for Residential Units
Which Have Not Paid the Nobleton Development Charges

Unit Type	Unpaid Growth as of September, 2011			Units Paid Since Sept, 2011			Remaining Unpaid Growth		
	Residual Units	Persons Per Unit	Gross Population	Prepaid Units	Persons Per Unit	Gross Population	Residual Units	Persons Per Unit	Gross Population
Singles/Semis	420	3.38	1,420	295	3.38	997			
Multiples	22	3.03	67	31	3.03	94			
Apartments	60	1.90	114	-	1.90	-			
Total	502		1,600	326		1,091	176		509

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As indicated, in the table above, as of September, 2011, there were 502 residential units remaining for which development charges had not been paid. The estimated gross population in these units was 1,600 persons. Since then, development charges have been paid for a further 326 units with a gross population of 1,091 persons. This leaves a further 176 residential units and a gross population of 509 persons. The outstanding residential development charge recoverable share will be allocated over the remaining 509 persons.

Table 5-3 calculates the proposed uniform development charges to be imposed for the Nobleton urban area. The development charge eligible costs for each service component were provided above after the adjustments for payment of units and indexing adjustments. For the residential calculations, the total cost is divided by the “gross” (new resident) population to determine the per capita amount. Note that for these calculations, the “gross” population relates to those units which have not paid the development charge. Table 5-2 provides for this calculation. The calculation for residential development is generated on a per capita basis, and is imposed by dwelling unit type upon four forms of housing types (Single and Semi-detached; Large Apartments; Small Apartments; and all Other Multiples).

With respect to non-residential development, the total costs allocated to non-residential development have been divided by the anticipated development over the planning

period to calculate a cost per square foot of gross floor area. As such, the non-residential development charge is imposed on a per square foot basis for all types of non-residential development (industrial, commercial and institutional).

**Table 5-3
Region of York
Development Charge Calculation
Nobleton Area Specific
(2016 to Buildout)**

SERVICE	Growth Related Costs	
	Residential	Non-residential
Wastewater Services	\$1,462,490	\$3,068,133
DC ELIGIBLE CAPITAL COST	\$1,462,490	\$3,068,133
2016 - Build out Gross Population / GFA Growth (square feet)	509	570,500
Cost Per Capita / Non-Residential GFA (square feet)	\$2,873.26	\$5.38
<u>By Residential Unit Type</u>	<u>persons per unit</u>	
Single and Semi-Detached	3.41	\$9,798
Apartments - 650 square feet or more	2.06	\$5,919
Apartments - Less than 650 square feet	1.50	\$4,310
Multiple Unit Dwelling	2.93	\$8,419

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6. Bylaw Policy Considerations

The current Nobleton area-specific bylaw policies are provided within Bylaw No. 2011-36 and summarized in Chapter 2. The proposed bylaw contained in Appendix B sets out the policies for the 2016 bylaw.

7. Bylaw Approval Process

Figure 7-1 sets out the key anticipated dates in the proposed amendment process for the Region's Nobleton area-specific development charge bylaw.

Figure 7-1
Schedule of Dates for the Region
Area-specific Development Charge Bylaw Process

1. Draft Background Study Presented to Committee of the Whole	April 14, 2016
2. Background Study tabled at Council	April 21, 2016
3. Background study and proposed bylaw available to public and posted on the Region's website	April 21, 2016
4. Public Meeting Notice published in newspaper(s)	April 28, 2016
5. Public meeting of Council	May 19, 2016
6. Committee of the Whole considers approval of background study and bylaw	June 16, 2016
7. Council considers adoption of background study and passage of bylaw	June 23, 2016
8. Newspaper notice given of bylaw passage	By 20 days after passage
9. Last day for bylaw appeal	40 days after passage
10. Bylaw comes into effect	September 21, 2016
11. Region makes available pamphlet (where bylaw not appealed)	by 60 days after in force date

Appendix A – Long Term Capital and Operating Examination and Asset Management Plan

Appendix A – Long Term Capital and Operating Examination and Asset Management Plan

As a requirement of the Development Charges Act, 1997 under subsection 10(2)(c), an analysis must be undertaken to assess the long term capital and operating cost impacts for the capital infrastructure projects identified within the development charge. Further, subsection 10(2)(c)2 states that the background study must now include an Asset Management Plan. The asset management plan must

- deal with all assets that are proposed to be funded (in whole or in part) by development charges; and
- demonstrate that all assets are “financially sustainable” over their useful life.

The capital works that are the subject of this development charge study have already been completed and as such, will have no additional operating cost impacts.

An asset management plan for these works is encompassed in the Region of York report “Asset Management Plan, Nobleton Water and Wastewater System, March 2016.” The full document is provided in this appendix.

The report notes that a long term (100-year) expenditure forecast for both water and wastewater assets in York Region has been developed and is updated on an annual basis. In particular, a major update was completed in 2015 to support the 2015 rate study. In terms of funding, the report concludes that rehabilitation and replacement needs of existing infrastructure is to be funded through water and wastewater rates and that the recommended rates:

“will achieve full cost recovery and provide the necessary funding to support long term asset rehabilitation, replacement, condition assessment and operating needs, which is critical to the long-term financial sustainability of water and wastewater services in York Region”



**Asset Management Plan
Nobleton Water and Wastewater System**

ENVIRONMENTAL SERVICES DEPARTMENT

March 2016

eDOCS# 6577236

Table of Contents

1) Introduction.....	3
Background	3
The Village of Nobleton	3
Overview of the Water System.....	3
Overview of the Wastewater System	4
2) State of the Infrastructure.....	6
Asset Value.....	6
Infrastructure Upgrade History.....	7
State of Infrastructure Grading.....	7
Infrastructure Assessments	7
3) Levels of Service	9
Baseline LOS Commitment - Water System.....	9
Baseline LOS Commitment - Wastewater System	10
4) Asset Management Strategy	11
Alignment with the Region’s 2015 – 2019 Strategic Plan.....	11
Long Term Renewal Forecasting Framework	11
5) Financing Strategy	13
Long Term Renewal Forecast.....	13
Funding	13

List of Figures

Figure 1: Nobleton Water Servicing Infrastructure	4
Figure 2: Nobleton Wastewater Servicing Infrastructure.....	5
Figure 3: Timeline of Upgrades in Nobleton's Water and Wastewater Infrastructure History	7
Figure 4: Long Term Forecasting Process Diagram.....	12
Figure 5: Nobleton System Long Term Expenditure Forecast	13

List of Tables

Table 1: York Region Infrastructure in Nobleton.....	6
Table 2: Condition and Inspection Summary of Nobleton Facilities	8
Table 3: Grading Scores and Definitions.....	8

1) Introduction

Background

York Region owns and operates approximately \$88 million worth of infrastructure assets to support water and wastewater servicing in the Village of Nobleton. As existing infrastructure ages, an asset management plan is required to ensure that financial resources required to maintain asset in good state of repair considering a full lifecycle approach.

The briefing note has been prepared to summarize the Asset Management Plan that is currently in place in support of the preparation of the Development Charges Background Study. It outlines the characteristics and condition of the infrastructure assets, the planned levels of service, planned actions to ensure the assets continue to provide the required levels of service and long-range financing strategies to implement the planned actions based on the asset lifecycle framework.

The briefing note has been structured as follows:

- 1) Introduction
- 2) State of Infrastructure
- 3) Levels of Service
- 4) Asset Management Strategy
- 5) Financing Strategy

The Village of Nobleton

The Village of Nobleton is located within the Township of King in the Regional Municipality of York. The population of the village is approximately 4700 persons.

Water and wastewater services are provided to Nobleton by York Region and the Township of King, through an integrated two-tier servicing arrangement. The Region is the “wholesaler”, supporting supply, treatment, storage, pumping and transmission for drinking water and major pumping, conveyance and treatment in the case of wastewater. The Township is responsible for the distribution of water and collection of wastewater from customers. Jurisdiction for the provision of water and wastewater services in Ontario is defined by Section 11 of the Municipal Act.

Overview of the Water System

The existing Regional water system is composed of three groundwater wells, two storage facilities, one booster pumping station and transmission mains connecting to the Township distribution system. A map of York Region’s water servicing infrastructure and the local distribution system is illustrated in Figure 1.

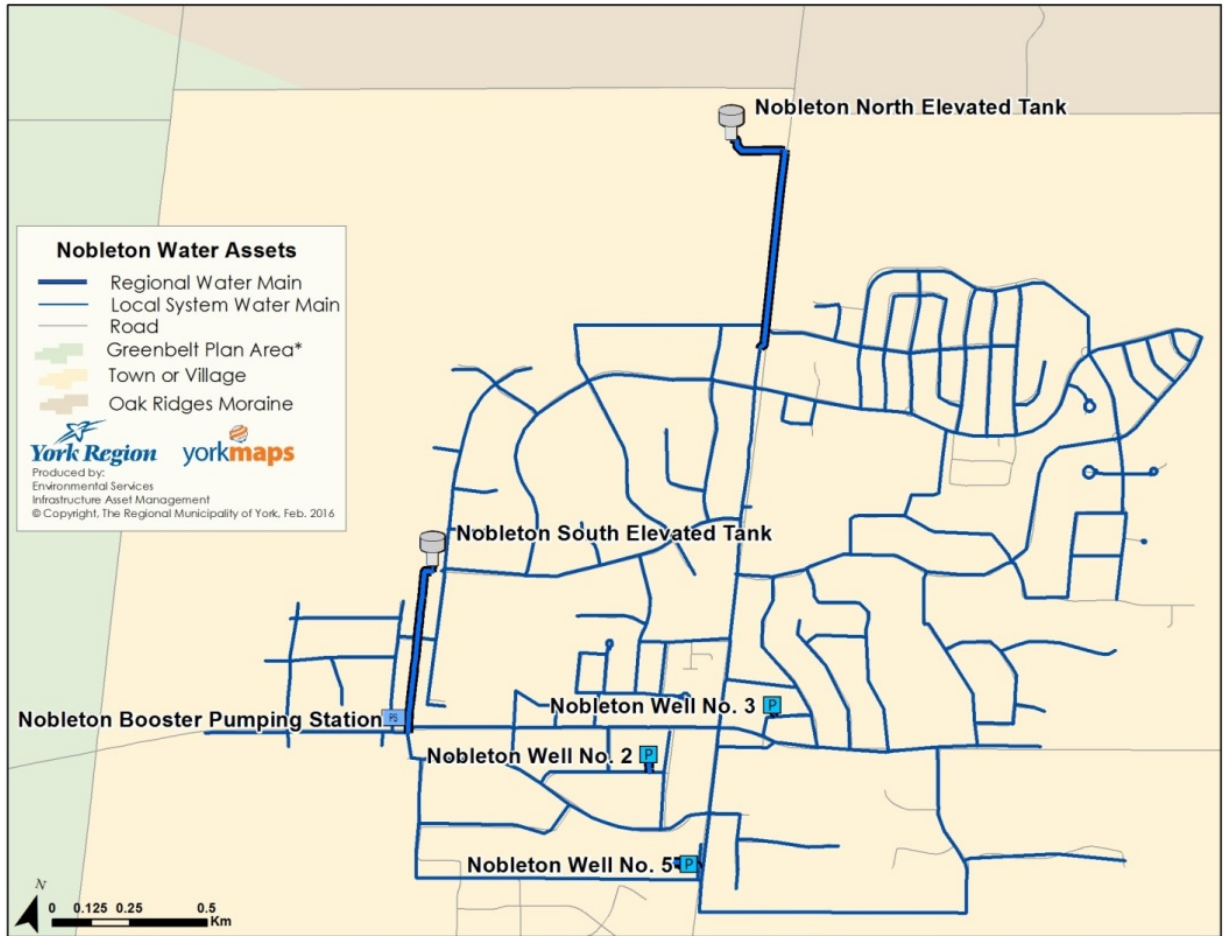


Figure 1: Nobleton Water Servicing Infrastructure

Overview of the Wastewater System

All the wastewater generated in Nobleton flows through the Township of King’s local collection system towards the Nobleton Sewage Pumping Station which is owned and operated by the Region. This pumping station conveys wastewater for treatment at Nobleton Water Resource Recovery Facility. A map of York Region’s wastewater servicing infrastructure and the local collection system is illustrated in Figure 2.

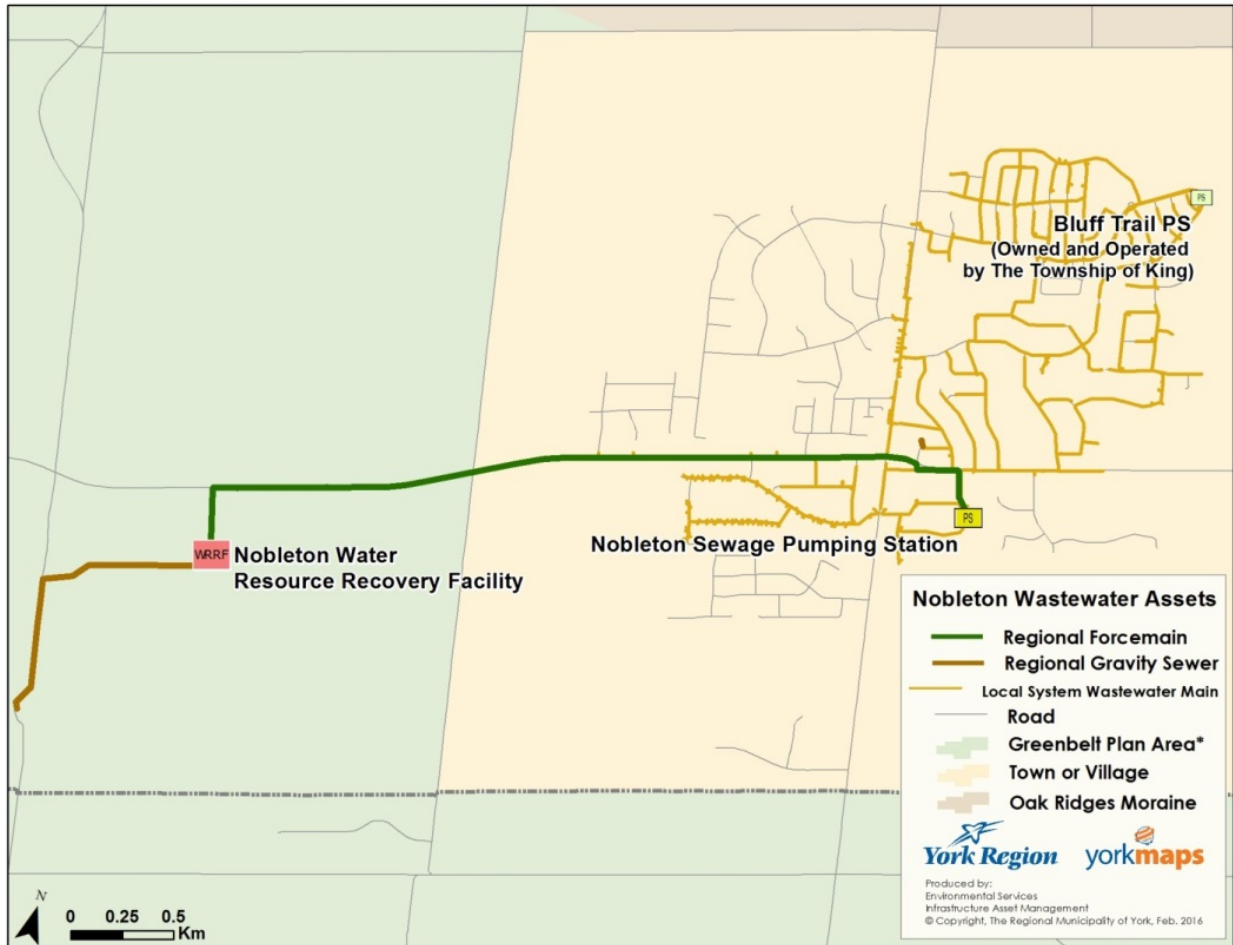


Figure 2: Nobleton Wastewater Servicing Infrastructure

2) State of the Infrastructure

Asset Value

In 2015, an independent review of Water and Wastewater asset replacement values and costing methodology was undertaken to update infrastructure replacement costs and better understand how asset replacement costs change over time. Facilities were broken into components while engineering estimates based on recent projects, current market values, current indexes, and updated facility information were used to determine realistic replacement costs. These updated values have been used to prepare long-term infrastructure needs and to inform the Water & Wastewater Rate Study Update. The total replacement cost of York Region’s infrastructure in Nobleton is approximately \$88.2 M, as shown in Table 1 below.

Table 1: York Region Infrastructure in Nobleton

System	Asset	Facility Type	Installation Year	Asset Replacement Cost
Water Supply	Nobleton Well No. 2	Groundwater Production Well	1960	
Water Supply	Nobleton Well No. 3	Groundwater Production Well	1960	
Water Supply	Nobleton Well No. 5	Groundwater Production Well	2015	
Water Supply	Nobleton Booster Pumping Station	Water Pumping Station	1977	
Water Supply	Transmission Watermains	Watermain	1985-2015	
Water Storage	Nobleton North Elevated Tank	Elevated Tank	2013	
Water Storage	Nobleton South Elevated Tank	Elevated Tank	1986	
Water System Subtotal:				
Wastewater Collection	Nobleton Sewage Pumping Station	Sewage Pumping Station	2008	
Wastewater Collection	Nobleton Sewage Pumping Station Forcemain	Forcemain	2010	
Wastewater Treatment	Nobleton Water Resource Recovery Facility	Water Resource Recovery Facility	2010	
Wastewater Treatment	Nobleton Water Resource Recovery Facility Outfall	Gravity Sewer	2010	
Wastewater System Subtotal:				\$63.52 M
Water and Wastewater System Total Replacement Cost:				\$88.2 M

Infrastructure Upgrade History

The Region's water and wastewater infrastructure servicing the village of Nobleton has undergone upgrades in recent years to support growth and maintain a state of good repair. The following timeline illustrates the major infrastructure rehabilitations, additions and upgrades completed on the Nobleton water and wastewater systems.

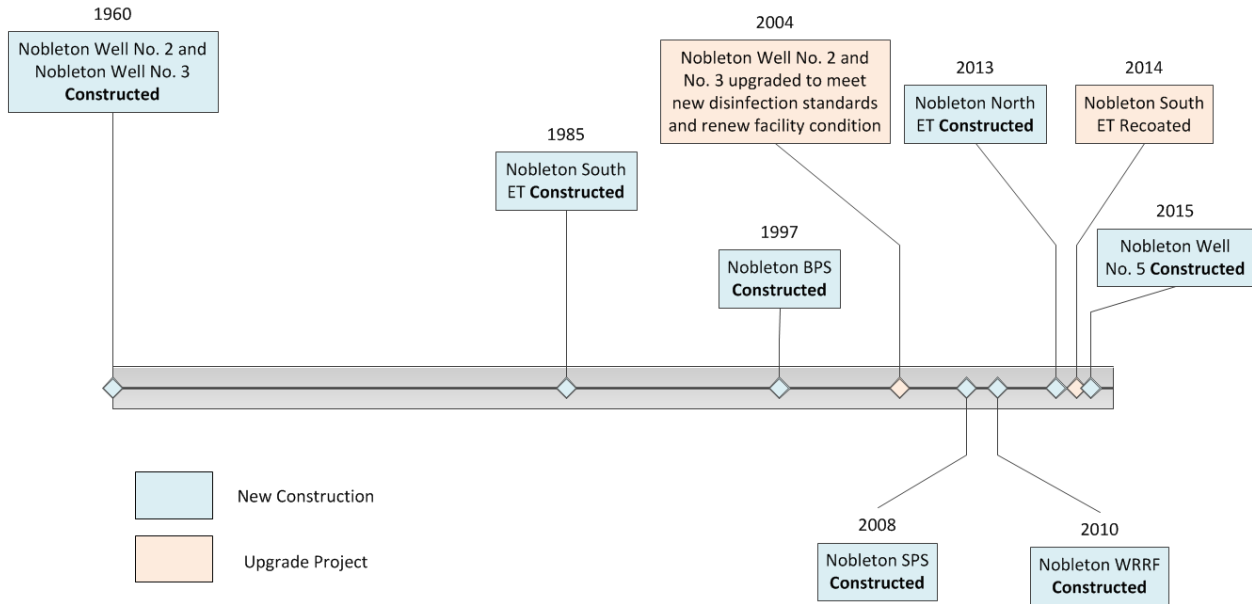


Figure 3: Timeline of Upgrades in Nobleton's Water and Wastewater Infrastructure History

State of Infrastructure Grading

The Region has an established condition assessment program to collect condition, reliability, and capacity data on Regional assets on a regular basis. Every two years, a State of Infrastructure Report is prepared to summarize the state of Regional infrastructure. The most recent State of Infrastructure Report was released in 2014. The next report is planned for fall 2016. The following summarizes the recently completed condition assessment results carried out on the Nobleton Water and Wastewater systems. Results will be combined with other assets and collectively reported in the State of Infrastructure Report.

Infrastructure Assessments

Visual inspections were completed from 2014 to 2015 for the majority of the facilities in Nobleton's water and wastewater system. Table 2 summarizes the results of these recent condition assessments. The findings are based on data gathered by consultants or Region staff and show that the majority of the assets are in very good or good condition. This result reflects the generally young age of the Nobleton water and wastewater system and the recent upgrades that have renewed some of the older assets.

Table 2: Condition and Inspection Summary of Nobleton Facilities

Facility	Year of Last Assessment	General Findings*	Type of Inspection
Nobleton Well No. 2	2014	Facility is in good condition	3rd Party Visual Inspection
Nobleton Well No. 3	2014	Facility is in good condition	3rd Party Visual Inspection
Nobleton Well No. 5	N/A	New facility - very good condition	N/A
Nobleton South Elevated Tank	2014	Facility is in very good condition	3rd Party Visual Inspection
Nobleton North Elevated Tank	2014	Facility is in very good condition	3rd Party Visual Inspection
Nobleton Booster Pumping Station	2015	Facility is in fair condition	Internal Visual Inspection
Nobleton Water Resource Recovery Facility	2015	Facility is in very good condition	3rd Party Visual Inspection
Nobleton Sewage Pumping Station	2015	Facility is in good condition	Internal Visual Inspection

* Grading definitions are provided in Table 3 below

Table 3: Grading Scores and Definitions

Grade	Name	Description
1	Very Good	The infrastructure is generally in very good condition, typically new or recently rehabilitated.
2	Good	The infrastructure is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit minor deficiencies.
3	Fair	The infrastructure is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit moderate deficiencies.
4	Poor	The infrastructure is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the facility exhibits significant deterioration.
5	Very Poor	The infrastructure is in unacceptable condition with widespread signs of advanced deterioration. Many components in the facility exhibit signs of imminent failure, which is affecting service.

More comprehensive condition assessments and performance testing are scheduled for 2017 and 2018 to build upon our existing assessment information and enable better asset management decisions.

3) Levels of Service

Delivery of water and wastewater services in York Region is governed by a variety of federal and provincial Acts, Regulations, guidelines, and policies. The following provincial Laws and Guidelines impact water and wastewater servicing in Nobleton:

- Clean Water Act
- Safeguarding and Sustaining Ontario's Water Act
- Environmental Protection Act
- Ontario Water Resources Act
- Ontario Ministry of the Environment Guideline F-5
- Environmental Assessment Act
- Safe Drinking Water Act and Drinking Water Systems Regulation (O. Reg. 170/03)

Baseline LOS Commitment - Water System

The Nobleton water system was designed based on a per capita demand of 310 Lpcd.

York Region's water is monitored to ensure it is in compliance with the Ontario Drinking Water Standards (ODWS), which identify more than 100 criteria for safe consumption limits, proven on the basis of medical research. York Region conducts a comprehensive sampling program that exceeds regulatory requirements. Additional information is provided in the *2015 Nobleton Drinking Water System Annual Report* available online at www.york.ca/drinkingwater.

The Nobleton Water System is restricted to the limits provided in the Permit to Take Water 0550-9PPRJ9 and the Drinking Water Works Permit 013-205. In 2015, Nobleton's production wells operated within the permitted daily and annual withdrawal limits. Additional information is provided in the *York Region 2015 Drinking Water System Summary Report*.

The Region's water treatment systems are complex and continuously monitored with advanced computer systems. There are approximately 180 critical control points under the Drinking Water Quality Management Standard (DWQMS) which are closely monitored with a series of alarms and controls to ensure high quality water is delivered to our customers. York Region's water operators are certified and highly trained on operation of treatment systems to be able to respond to potential issues that may occur and to meet regulatory requirements.

York Region is committed to continuously improving its drinking water systems by maintaining ISO 9001 certification and operating a Drinking Water Quality Management Standard. The Region uses its Integrated Management System to ensure compliance with these standards and drive continuous improvement in the system.

Baseline LOS Commitment - Wastewater System

The Nobleton wastewater system was designed based on a per capita wastewater generation rate of 446 Lpcd.

York Region has an Environmental Compliance Approval (ECA No. 5287-9GGMVA) from the Ministry of the Environment and Climate Change (MOECC) for Nobleton Water Resource Recovery Facility and Sewage Pumping Station. The ECA outlines the rated capacity of the system as well as final effluent objectives and limits. Additional information is provided in the *Nobleton Water Pollution Control Plant Environmental Compliance Approval (ECA) Annual Wastewater Performance Report – 2015*.

Effluent quality assurance or control measures currently in place include an extensive sampling program and controls required by the ISO 14001 Environmental Management Standard, captured by the IMS. As part of the IMS, effluent quality and system performance is monitored and reported to Management on a monthly basis.

Levels of Service Review

Through the Water and Wastewater Asset Management Plan, York Region will be expanding its use of levels of service as a tool to support infrastructure investment decisions. In addition, a risk-based asset condition assessment strategy will be developed to inform a cost effective and prioritized condition assessment program that enhance asset investment decision making process and, in turn, level of service.

4) Asset Management Strategy

The asset management strategy is a systematic process to manage the lifecycle of assets with the objective of optimizing the cost of asset ownership while delivering expected levels of service with acceptable levels of risk. This is achieved through integration of asset management processes and principles with business and financial planning to make empirically based, transparent, repeatable and proactive decisions.

Development of Water & Wastewater Asset Management Plans is underway with completion planned in early 2017. As part of these plans, key initiatives will be defined and further developed including:

- Developing costing methodologies for non-capital OMI (operations, maintenance and inspection) asset-related lifecycle costs
- Determining risk-based frequency of asset condition assessments and identifying appropriate technology and analysis options
- Improving assessment of long term financial needs through establishment of a continuous improvement framework that incorporating better costing tool, risk analysis, and levels of service Identifying lifecycle needs and lifecycle management principles for each major asset type
- Documenting and improving decision making frameworks including identification and management of supporting data

Alignment with the Region's 2015 – 2019 Strategic Plan

Development of an asset management strategy aligns with the Region's 2015 – 2019 Strategic Plan objective of Stewardship of the Region's Assets. Asset management planning will support key components of infrastructure asset management including the development of decision making frameworks and a strategy to ensure long term sustainable delivery of water and wastewater services.

Long Term Renewal Forecasting Framework

York Region's long term asset management strategy relates the renewal of assets to when they reach the end of their useful life. The remaining useful life of each asset is tied to the asset's lifecycle category, age, and condition assessment results. Figure 4 summarizes the process involved in producing the Long Term Renewal Plan.

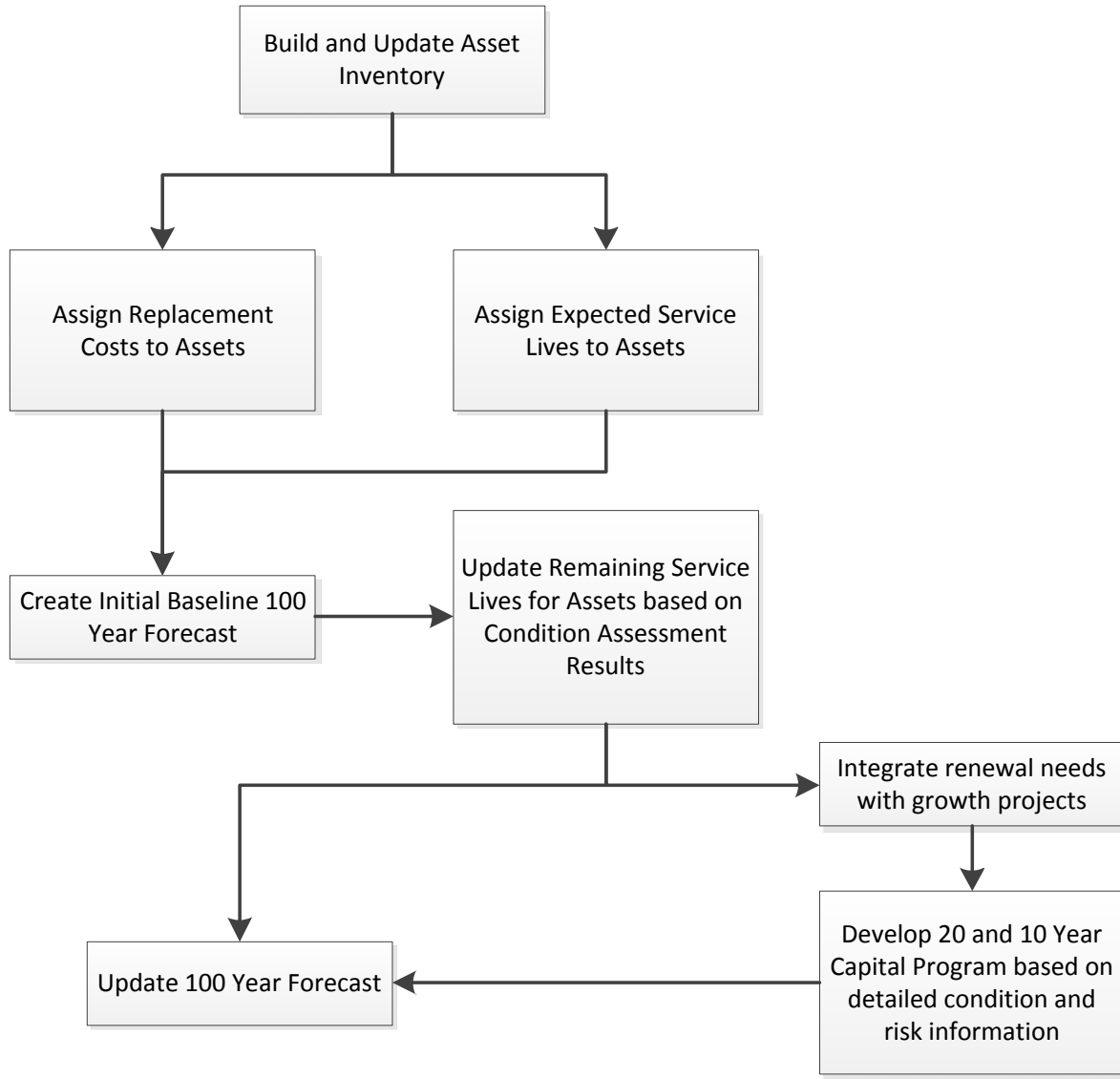


Figure 4: Long Term Forecasting Process Diagram

5) Financing Strategy

Long Term Renewal Forecast

A long term (100-year) expenditure forecast for both water and wastewater assets has been developed and is updated on an annual basis as part of the budget process. In 2015, a major update is completed through incorporating the results of the asset replacement value review, and has been used to support the 2015 rate study.

Figure 5 illustrates Nobleton's 100 year expenditure forecast. As illustrated in the forecast below, wastewater assets in the village contribute to the majority of the long term costs. The peaks near 2040, 2070, and 2110 correspond to major renewal works projected associated with the Nobleton wastewater system.

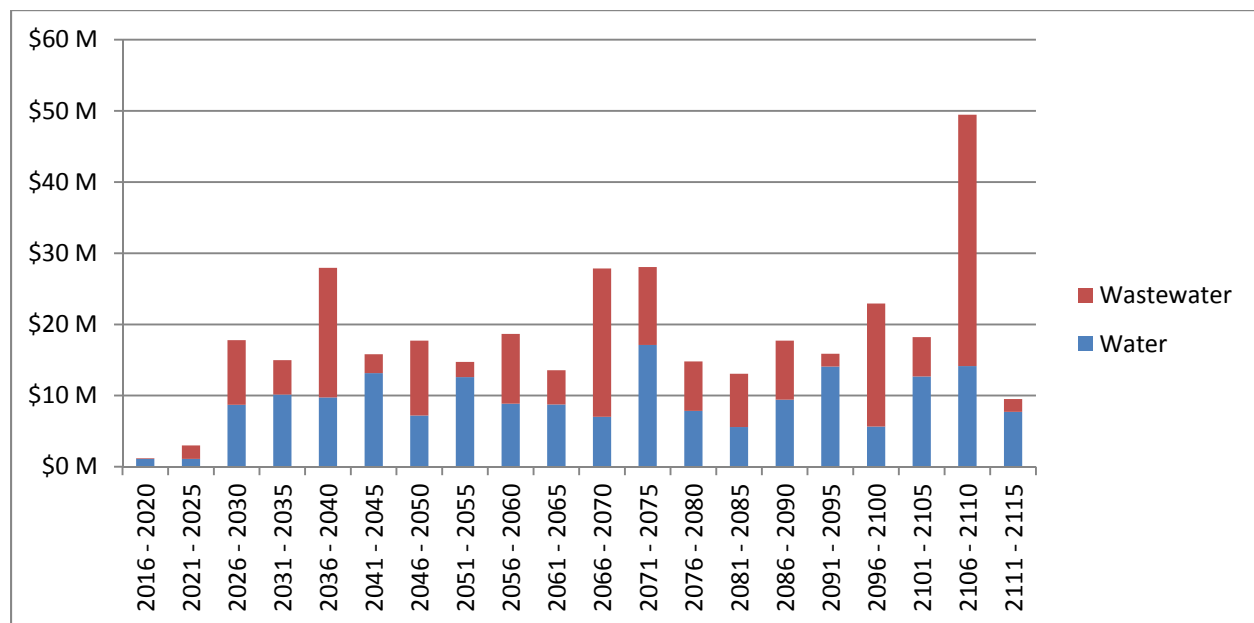


Figure 5: Nobleton System Long Term Expenditure Forecast

Funding

Rehabilitation and replacement needs of existing infrastructure are funded through water and wastewater water rates. The 2016 to 2021 water and wastewater rates were approved by Council in October 2015. The recommended rates will achieve full cost recovery and provide the necessary funding to support long term asset rehabilitation, replacement, condition assessment and operating needs, which is critical to the long-term financial sustainability of water and wastewater services in York Region.