

**Report from** Transportation and Environmental Services, Engineering and Construction

**Date of Report:** January 17, 2018

**Date of Meeting:** January 22, 2018

**Report Number:** TES-B004-2018

**File:** 18.20.205; 18.45.256

**Subject:** Early Budget and Approval of Proposed 2018 Construction Programs Funded by the approved 2018 Operating Budget, and 2018 Capital Budget and 2018 Water / Wastewater Budget

## Recommendation

That the Budget Committee receives this report for information and consideration.

That Council approve the Proposed 2018 Construction Programs funded by the approved 2018 Operating Budget, and the 2018 Capital Budget and Water / Wastewater Budgets subject to the approval of the 2018 Capital and / or Water / Wastewater Budgets; and

That the Director of Transportation and Environmental Services / City Engineer be authorized to proceed with the projects listed in Appendix 1, Schedule T, Early Budget Approvals to be funded from the 2018 Budgets; and

That the Director of Transportation and Environmental Services / City Engineer be authorized to proceed with engineering services, utility relocations and design for those projects identified in Appendix 1, Schedules A to S to be funded from the 2018 Budgets.

FORTHWITH

## Summary

This report outlines the City's 2018 construction programs for City-owned infrastructure and facilities. The construction programs are funded by the 2018 Operating Budget, Capital Budget and Water / Wastewater Budget. Early budget approval is recommended for projects shown in Appendix 1, Schedule T and for engineering services and utility relocations in order to permit timely completion.

Due to substantive cost increases for underground infrastructure during 2017, which are anticipated to continue, the majority of the underground infrastructure construction program is recommended to be utilized to provide additional funding for previously identified projects.

## **Background**

The City's budgets approve funds for construction, rehabilitation and repairs of various asset classes. In an annual "Program Report", Transportation and Environmental Services (TES) outlines the scope and location for projects to be funded by the various budgets. TES requests early budget approval for some projects in order to complete the projects within the current construction season or take advantage of favourable tender prices by calling tenders early in the construction season.

In 2016 Council approved an Infrastructure Levy Reserve to fund various initiatives to maintain the City's assets. The initiatives are identified in the Capital Budget and those which are construction projects are included in this report.

Depending upon its complexity, it can be difficult to complete a project from initial budget approval to finished construction within one calendar year. Hence staff continue recommending an increased use of multiple year or phased funding within the Construction Program.

Staff have noted a significant increase in tender pricing submitted for recent construction projects, especially projects that have a substantial underground component. The local construction industry is quite busy with both public and private sector work. This has resulted in fewer bidders and higher pricing than what has been experienced historically. Our colleagues in other local municipalities have also noted similar trends. Staff anticipate the increased prices will continue into the foreseeable future.

## **Report**

The recommended Construction Programs are detailed in Appendix 1 Schedules A to S and rational for each program are contained in the following sections of this report. A list of project titles by ward has been included as Appendix 2.

### **1. Road and Drainage Improvement Program (Schedule A & B)**

The City owns and maintains 562 km of roadway or 1,150 km of traffic lanes. The current replacement cost is estimated at \$808 million. Over 98 per cent of the City's roadways are made up of asphalt, asphalt on concrete or concrete surfaces.

Of the City's roadways, approximately 31% are rated in excellent or good condition, 31% are rated in fair condition, and 38% rated in poor condition. Less than 1% of the roads have received a fail rating.

Due to the age of the City's road network, increased failing grades could appear in 10 years if funding remains at 2017 level. To avoid this scenario, the City's Asset Management Plan recommended the implementation of a 4% annual funding increase.

This increase would help address the aging road network and work towards attaining desired levels of service. The proposed 2018 Road and Drainage Improvement Program amounts to \$7,430,682, which includes \$552,098 funding from the Ontario Commuter Cycling Fund.

Developing a sustainable Road Network requires the City to balance maintaining the roads based on citizen complaints and other requests, with more objective information such as pavement condition and rate of deterioration. The 2018 recommended program focuses on a balanced approach on both keeping the good roads good and also addressing deteriorated road conditions.

### **Pavement Management System**

The City uses a pavement management software, dTIMS to guide long-term planning for the road system. The software predicts the condition of roads into the future, based on historical data collected on how similar roads have performed in the past, and the risks of delaying treatments. Generally this means that priority is given to roads with higher volumes and which in turn means higher risk to the City and the residents.

The existing pavement conditions for various streets are given a pavement condition rating (PCR) of between 1 and 100 (with 100 being a newly reconstructed road). For a given road segment dTIMS determines the most appropriate treatment, at the most appropriate time. Using historical deterioration rates for various classes of roads, the pavement management system predicts what the PCR for the various streets will be in the future. Multiple constraints are applied, with lowest lifecycle cost and performance as the objective. This strategy optimizes the maintenance and rehabilitation programs based on the available budget in order to provide the maximum cost-benefit ratio.

For example rather than spending 3-5 times (or more) to reconstruct a road section, it is more cost-effective on a network level to allocate repair funds to resurface sections before they begin to fail and slip into the costly reconstruction category. Utilizing this approach allows the City to spread budget dollars to more roads.

Generally, this means that the program will recommend resurfacing rather than more costly reconstruction. This is confirmed by the fact that over the past five years, the City has expended almost \$13.5 million on resurfacing works (approximately 39% of the entire road rehabilitation budget). An amount of approximately \$2.561 million is being recommended for resurfacing this year to resurface approximately 6.2 km of roadway.

Council had approved a “target” average PCR of 75 for the entire road network. Depending upon the class of road, a PCR of 75 is typically a pavement approximately 10-20 years old with few cracks. The average PCR for the City’s entire road network is currently 68.7.

For the past 10 years, the resurfacing program has received favourable tender prices when tendered early in the spring. Staff are recommending that this practice continue. In order to maximize the works, additional segments of roadway in poor condition will be added should there be any surplus of funds in the project budget.

## **Road and Reconstructions**

Despite staff's concentration on resurfacing, more expensive rehabilitation or reconstruction projects are still required. These project maybe required due to:

- Pavement condition
- Condition of underground assets (watermains, sanitary and storm sewers etc.)
- Partnerships and/or commitments with other Agencies (Other Municipalities, Region, MTO etc.)
- Capacity
- Geometric and structural deficiencies
- Potential Safety improvements
- Overall Community / Network Benefit
- Coordination with adjacent road sections
- Development and Growth

The 2018 Program includes funds to implement the construction of:

- Third Street Louth Road widening to including bicycle lanes.
- Race Street Parking Improvements, which will include modifications to the existing curb and island on Race Street between McGuire Street and Carlisle and the existing traffic island to improve parking.

Funds are also recommended to commence the Environmental Assessment and detailed design for the following roadways with conditions that have deteriorated beyond resurfacing:

- Merritt Street from Almond Lane to Ball Avenue West
- Gale Crescent from Geneva Street to Oakdale Avenue
- Lake Street from Welland Avenue to Queen Street

The construction of these works will be coordinated with other underground utilities including watermain and sanitary sewer replacements and a need for new storm sewers.

The 2018 road program includes additional funds for the following road projects already under design and funded in previous years' budgets:

- Highland Avenue reconstruction between Ridgewood Road and Rockcliffe Road
- Moffatt Street utility relocations in advance of future reconstruction from the north limit to the south limit (construction costs for the road improvements will be budgeted in a future year)

- Terry Lane reconstruction from Graham Avenue to Shelley Avenue in conjunction with watermain works; and
- Downtown Street System Conversion

The Downtown Street System Conversion project is being undertaken in cooperation with Niagara Region as several City and Regional streets will require road reconstruction. The following City streets are impacted by this final phase:

- Church Street from Geneva Street to King Street, and
- Queenston Street from Geneva Street to Riordon Street, and
- St. Paul Street from Geneva Street to Court Street

Replacement of City sidewalks will also be coordinated on the following Regional Roads in coordination with their reconstruction during this final phase:

- Church Street from Niagara Street to Geneva Street, and
- Geneva Street from Church Street to St. Paul Street, and
- Niagara Street from Geneva Street to Church Street

Plans for all reconstruction projects will be reviewed with the Green Advisory Committee to evaluate possible opportunities for landscaping. Annually, locations identified for road improvements are reviewed with the Active Transportation Committee and are also reviewed by staff for consideration for potential traffic calming measures. Should proposed traffic calming measures be required, the cost of those improvements will be borne by the project account.

## **Preventative Maintenance**

Staff feels timely maintenance practices such as crack sealing and base repairs have significantly reduced the rate of the city's pavement deterioration. It is recommended that the City continue with these valuable programs.

## **2. Bridge and Culvert Rehabilitation & Replacement Programs (Schedule C & D)**

The 2018 replacement value for bridges and major culverts (greater than 3m span) is approximately \$48 million. Provincial regulations require that biennial inspections (once every two years) be carried out on bridge and culverts with spans greater than three metres. These inspections were last carried out in 2016 and will be undertaken this year in 2018.

### **Rehabilitation Program (Schedule C)**

During the 2016 inspections, there were a number of structures that require similar type of maintenance work, such as roadside safety improvements, replacement of rotten timber decking, reconstruction bearing seats, and recoating of structural steel, to extend the service life of the structures. Staff retained an engineering consultant in 2017 to undertake the necessary engineering work in to complete the contract document and

specifications in order to tender one larger maintenance contract. These engineering services were funded from the Bridge and Culvert Program of the 2017 Operating Budget.

The 2018 Bridge and Culvert Program includes \$300,000 in funding to proceed with the above mentioned maintenance contract in order to extend the service life of three pedestrian bridges and the remove two others. Staff recommend hiring engineering services for two vehicular structures, namely Dunkirk Road over Cushman Road and Third Avenue Louth over Richardson Creek to be funding by the Federal Gas Tax Program (FGTP).

### **3. New Sidewalk Construction & Sidewalk Rehabilitation Programs (Schedule E & F)**

The Capital budget funds the installation of new sidewalks located within municipal road allowances. The Operating Budget funds the repair of existing sidewalks located within municipal road allowances. Since 2016, the Infrastructure Levy, which is shown in the Capital Budget has funded the repair of existing walkways. Walkways are those sidewalks on City owned lands which interconnect two road allowance and are not associated with a park or City owned building.

#### **New Sidewalk Construction Program (Schedule E)**

The 2018 new sidewalk program includes an allocation of \$300,000 for the construction of new sidewalks. This allocation is needed in order to help address the back log of requests from residents and businesses for new sidewalks. There are also many gaps within the sidewalk system which need to be constructed in order to complete the local network. Some approved funding does remain from 2017 approvals.

Shown individually in Schedule E are two locations which will be coordinated with other construction or have previously been endorsed by Council, namely Warkdale Drive, and the Race Street traffic island. A further report will provide additional details concerning the future new sidewalk program, site selection criteria and the approval process for initiating a new sidewalk project. Locations identified for future sidewalks are listed in that follow-up report.

#### **Existing Sidewalk Rehabilitation (Schedule E and F)**

The total length of existing City sidewalks and walkways is approximately 559 km. The estimated replacement value of the sidewalks in 2018 dollars is \$130 million. The estimated replacement value of the 23.5 km of walkways and emergency accesses is \$5.3 million. Based on an estimated life cycle of thirty years, the annual sustainable replacement value of the sidewalks, walkways and emergency accesses is \$4.5 million. These totals exclude the recreational trails and sidewalks leading to parks and schools, which were partially included in previously reported lengths.

Staff estimates approximately 5% of the existing sidewalks are in poor condition representing a \$6.8 million dollar deficiency.

Repair of existing sidewalks is funded by the Operating Budget and the repair of walkways by the Infrastructure Levy which is included in the Capital Budget.

Existing sidewalks are replaced to maintain safe walking routes for pedestrians. The system deficiencies change annually as some sidewalks are repaired each year and others reach the end of their service life.

Locations for sidewalk replacement are determined from a list of sidewalk deficiencies compiled by Operations staff. That list is based on field observations by Operations staff and complaints received from residents. The lists are then analyzed on a block by block basis to determine if a 50% threshold has been met. In cases where more than 50% of the existing sidewalks are deficient, then the entire block is recommended for replacement. The \$350,000 Sidewalk Rehabilitation program and \$50,000 Walkway Rehabilitation program fund these upgrades. When sidewalks are replaced on a block to block basis, they will be widened to meet the current Built Environment Regulations of the Accessibility for Ontarians with Disabilities Act (AODA) of at least 1.5m wide. Exceptions are made for areas subject to a Heritage Conservation Plan or when significant trees are encountered.

Locations not meeting the 50% threshold are repaired as “spot” repairs. Spot repairs are carried out by both City crews and contractors. The spot repairs are budgeted through the Operations Division of TES.

#### **4. Sewer Improvement Program (Schedule G)**

The total length of combined and sanitary sewers in the City is approximately 570 km. The estimated replacement value of these sewers, in 2018 dollars, is in the order of \$820 million.

The proposed 2018 Sanitary Sewer Improvement Program, funded by the Wastewater Budget, amounts to \$2,300,000 and an additional \$975,000 is recommended to be funded by the FGTP.

In the City’s 2013 Asset Management Plan, 13% of the sanitary sewers were noted to be in poor condition and in need of rehabilitation. Given the value of the entire system is estimated at \$820 million, the City currently has an infrastructure deficit of \$107 million. Based on an estimated life cycle of 75 years for sewers, the annual sustainable replacement value of the sanitary sewer system should be \$11 million. This year’s construction program falls well short of this amount.

A City-wide Zoom camera inspection of the sewer systems started in August 2017 with results anticipated by the end of 2018. Preliminary data for a quarter of the system

indicate that approximately 5% of the existing sewer system is in a poor condition structurally while approximately 20% of the existing sewer system is in a poor condition from an operational point of view.

Sewers for replacement and rehabilitation have been selected on a priority basis. These priorities are set principally from the results of CCTV inspection reports. Information from Operations field personnel is also solicited when developing the program.

When possible, sewer repair, replacement and rehabilitation works are carried out in conjunction with other works, such as road repairs and watermain replacement.

A continued increase in the number of deficiencies has been identified including blockages from collapsed pipe sections, grease and severe root infiltration, which restricts capacity and may lead to backup during periods of high flow. Rehabilitation of these sewers will ensure an adequate level of service and reduce the likelihood of basement flooding in adjacent and upstream areas of the sewer system.

## **5. Storm Sewer Program (Schedule H)**

The total length of storm sewers in the City is approximately 403 km. The estimated replacement value of these storm sewers, in 2018 dollars, is in the order of \$641 million.

As previously reported to Council, storm sewer separation forms a significant component of a multifaceted approach to alleviate basement flooding problems.

The construction of storm sewers is concentrated in combined sewer areas which experienced recent basement flooding or have combined sewage overflow. The new storm sewers will reduce the amount of surface water entering the sanitary or combined sewer system thereby providing relief to the immediately adjacent areas as well as the properties upstream and downstream of the new sewers. New storm sewers are also proposed in areas with surface flooding when open channel solutions will not be effective.

Staff recommend very few newly identified projects in 2018. The majority of the \$1,877,000 recommended 2018 construction budget is additional funds for projects not yet tendered. Projects amounting to an additional \$752,000 are recommended to be funded by the FGTP.

The project requiring the largest amount of additional funding is Francis Creek Drain Improvements. Geotechnical testing undertaken in 2017 revealed that specialized material handling and disposal will be required for the majority of sediments removed from the channel.

Also recommended is funding a storm drainage study in the vicinity of Maplewood Avenue to investigate options related to nuisance surface flooding along a portion of Walker's Creek south of Linwell Road.

Unlike sanitary and combined sewers, storm sewers were not inspected and as a result their conditions are mostly unknown and an estimate of infrastructure deficit for storm sewers has not been available. A zoom camera inspection program is underway to prioritize further investigations, maintenance and replacements. Preliminary data for the City's north end indicates that approximately 9% of the existing storm sewer system is in a poor condition.

Based on an estimated life cycle of a hundred years, the annual sustainable replacement value of the storm sewer system should be approximately \$6.4 million

## **6. Pollution Control Plan (Schedule I)**

Projects identified by the City's Pollution Control Plan are the City's effort to meet or exceed the requirements of the Ministry of the Environment and Climate Change's Procedure F-5-5 Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems. The Pollution Control Plan (PCP) identified a number of initiatives to upgrade the existing sewage infrastructure to address combined sewer overflow discharges to the natural environment.

An update of the Pollution Control Plan is underway.

Engineering phases continue the Burleigh Hill / Glendale CSO. A tender for an initial construction phase is anticipated soon for works south of Glendale Avenue. Prior to finalizing tank storage design, an additional geotechnical investigation is underway to reconfirm soil properties within Glengarry Park.

In 2018 staff recommend a final phase of funding for the Burleigh Hill / Glendale Avenue CSO Control project be included in the in the 2018 Capital Budget at \$2.5 Million. An application will be submitted for 40% funding from the Region's CSO MAP program.

## **7. Water System Improvement Program (Schedule J)**

The total length of watermains under the City's jurisdiction is approximately 610 km. The estimated replacement value in 2018 dollars is \$1,150 million including water service replacements. Assuming an average service life of 50 years for watermains, the annual cost for watermain replacement should be 2% of the total replacement cost of the whole system or \$23 million in 2018 dollars, in order to maintain a sustainable watermain distribution system.

At the present approximately 53% of the pipes in the watermain system are comprised of relatively new PVC (Polyvinylchloride) pipe or other currently approved materials. The remaining 47% is comprised of various other older materials such as C.I. (Cast Iron),

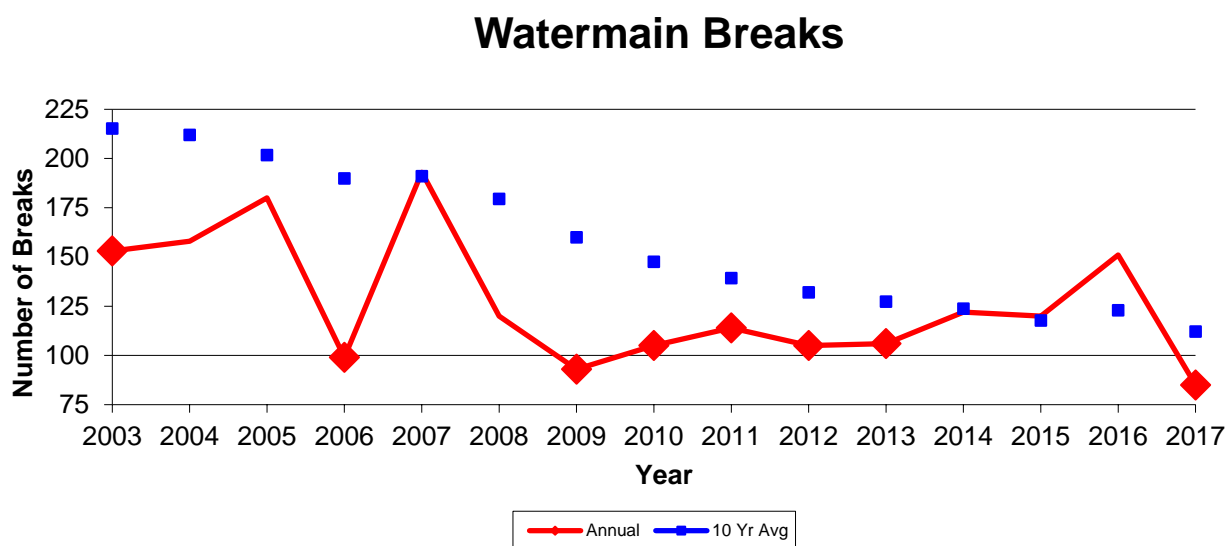
D.I. (Ductile Iron), or T.R. (Transite). If the City were to replace all of the watermain sections made of the older materials, the cost in 2018 dollars will be approximately \$535 million. However not all watermains made of older materials have reached the end of their useful life and neither are all the older watermains in a critical condition. It is estimated that approximately 5% of all the watermain sections are currently in a critical condition. This percentage does not include C.I. watermains that have no break record but are targeted to be replaced in coordination with other infrastructure projects to reduce the potential for colored water incidences. This percentage also does not include watermain sections that are undersized as per current standards. If the City were to replace all of the watermain sections currently considered to be in a critical condition, the cost in 2018 dollars will be approximately \$28 million.

The total length of block to block watermain sections that have a break record is approximately 203 km or 33.4% of the overall length of the water distribution system. However, not all sections with a break history are considered to be in a critical condition.

Staff continues to monitor the number and location of existing watermain breaks. A total of 85 breaks occurred in 2017 which is approximately 24% below the 10 year average of 112 breaks per year.

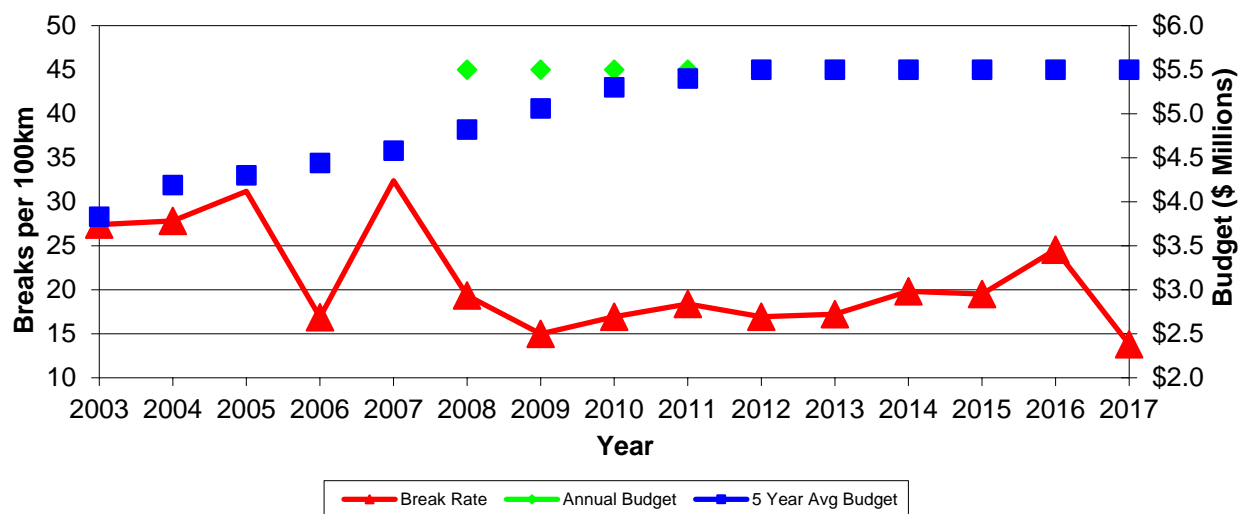
Figures 1 and 2 present records for the past 15 years and reflect the high variability in the number of annual watermain breaks.

**Figure 1**



**Figure 2**

## Watermain Breaks per 100km



As previously reported to Council the prioritization of watermain replacement throughout the City continues to utilize a balanced approach, considering watermain break history, coloured water concerns, pressure and flow problems, and coordination with other sewer and road projects. This approach includes the replacement of cast iron, ductile iron and transite watermain as required.

In 2018 the watermain replacement program remains at \$5.5 million dollars funded by the Water Budget and \$728,215 funded by the FGTP. The table below represents the total length of watermain included within the proposed budget.

	Additional funds for previously approved projects (km)	Newly identified replacement watermain (km)	Engineering Services (km)
Water Budget	7.15	0.00	0.00
Capital - Gas Tax	0.00	0.37	0.74
Capital - City share of Region	0.00	0.00	0.00
Total (km)	7.15	0.37	0.74
% of total existing watermain system	1.20%	0.06%	0.12%

These percentages are less than the target replacement rate of 2%.

Council has directed that each year's water budget should include an allocation of at least \$750,000 for the replacement of watermain in areas experiencing coloured water problems. In the 2018 budget, \$3,095,000 is proposed to be spent on replacement of old and deteriorated cast iron watermain which are usually the cause of coloured water in the system. This will generally help in alleviating coloured water problems in the areas where the watermain are being replaced.

Watermain replacement projects inherently cause disruptions to water supply which impacts residents and businesses directly. Staff and City contractors try to minimize the number and length of the water supply shutdowns, but interruptions to the water supply cannot be avoided completely. In order to minimize the inconvenience during the necessary watermain shutdowns required by construction projects, staff recommends using flexible scheduling in the construction contracts. Flexible scheduling will include evening (off hours), night time and weekend work if it is the least disruptive option for the affected water users. These measures are anticipated to incur extra costs and may raise after hours noise concerns but they will help in minimizing inconveniences to water users during watermain replacement projects.

Staff recommends a proposed Water System Improvement Program for 2018 of \$5,500,000 as detailed in Appendix 1, Schedule J.

## **8. Shoreline Protection Program (Schedule K)**

The City has installed approximately 2,800 metres of shoreline protection structures on public land. The 2018 replacement value of the existing shoreline protection is \$15 million. To remediate identified medium and low priority deficiencies in the existing shoreline protection has an estimated cost of \$300,000.

In addition there are 16 sites of unprotected municipal lands or road right of ways where no formal shoreline protection works have been constructed. The unprotected lands total approximately 1,950 metres in length. A previous review of shoreline conditions identified remedial cost of \$330,000 at 9 of those 16 sites and \$3.3 million to provide 650 metres of shoreline protection at the remaining seven sites.

Due to the high water levels on Lake Ontario in the Spring / Summer of 2017, staff recommends \$100,000 be included in the 2018 Capital Budget for the Shoreline Protection Program to undertake a condition assessment of the existing infrastructure, prioritize rehabilitation of existing shoreline and to identify priority locations for new shoreline protection.

## **9. Watercourse Rehabilitation Program (Schedule L)**

The City of St. Catharines has approximately 36.5 km of watercourses that generally drain water from within the City out to Lake Ontario. The deterioration of the protective works for these watercourses and the limited funds available to rehabilitate them, may lead to the erosion of public and private lands and structures.

A Watercourse Flooding and Erosion Control Priority Study Report was provided to the City in February 2015 for creeks within the urban areas of St. Catharines. Staff is using the report's findings and recommendations for prioritizing watercourse restoration works in conjunction with other required infrastructure works / projects. The study also has prioritized rehabilitation needs of culverts with diameters too small to be included in the mandatory biennial Bridge and Major Culvert Inspections.

During a previous study, deficiencies related to the Martindale Pond Weir were identified. Adjacent to the Martindale Pond Weir is the Heywood Generating Station which is owned by St. Catharines Hydro Generation Inc. In order to comply with Federal legislation, a facility safety review is required in order to identify and prioritize any required capital improvements to address deficiencies. Since these structures are adjacent to each other, the City retained a consultant to under the required safety review for both structures under one engineering assignment. The objective of this assignment is to complete a Dam Safety Review of the Martindale Pond Weir and Heywood Generating Station in accordance with the Ministry of Natural Resources and Forestry's (MNRF) Dam Safety Review Best Management Practices and technical bulletins, as legislated under the Lakes and Rivers Improvement Act. Deficiencies for both dam structures will be identified along with recommendations, timelines and cost estimates to address any deficiencies. An amount of \$150,000 is proposed to be included in the 2018 Watercourse Rehabilitation Program in the Capital Budget to undertake the recommended improvements for the Martindale Pond Weir, once the Dam Safety Review is completed.

Watercourses are different than other infrastructure and it is difficult to estimate a total value or funds required for complete rehabilitation. The rehabilitation requirements at various locations are different and the requirements can also change rapidly with time. In addition, the rehabilitation techniques can vary from site to site affecting the rehabilitation costs. The 2015 Watercourse Flooding and Erosion Control Priority Study identified 87 watercourse sites citywide that are eroded and need rehabilitation. Out of the worst 25 eroded sites, 6 sites are located on private property and the City does not have any jurisdiction or responsibility for those sites. Inflation adjusted cost estimates for rehabilitating the remaining 19 eroded sites is approximately \$9,000,000. Although each erosion site and the rehabilitation required at each site is different, for estimation purposes the above total cost translates to approximately \$475,000 for each erosion site, on average. If this average rehabilitation cost is applied to all the 87 erosion sites identified, the total citywide watercourse rehabilitation costs will be approximately \$41,325,000 in 2018 dollars.

## **10. Regional Cost Sharing Projects**

This category includes the City's share of municipal works (such as sewer repairs, watermain replacements, sidewalk replacements and new storm sewer construction) on projects undertaken in cooperation with the Regional Municipality of Niagara.

Coordinating the City's efforts in this way helps to minimize cost and disruption to the affected residents and businesses.

For 2018 Niagara Region has advised they will be proceeding with a construction tender for Martindale Road from South Service Road / Commerce Place to Bridge Street. The City's share of costs include improvements to the existing sidewalks and new sidewalks. Funding for these improvements is recommended to be the 2018 FGTP.

Niagara Region also plans to tender the final phase of the Downtown two-way street conversion. The City's share of this project is funded by the 2017 and 2018 Road and Drainage program and additional details are found in Section 1 of this report.

## **11. Building Improvement Program (Schedule N & O)**

Listed below are some of the key initiatives or programs that will be carried out as part of the Building Improvement Program. The various building programs described below highlight costs associated with the asset management of individual building features such as roofing, washrooms or accessibility upgrades or the costs associated with various classes of building such as Heritage Buildings and Arenas.

Recommendations for facilities required by Parking and Fire Services may be detailed here or in subsequent sections of this staff report.

The total cost amounts included in these key program summaries may include funding from both the Capital and Operating Budget.

The 2013 Asset Management – Facilities Planning staff report assigned buildings a Category 1, 2 or 3 rating based on their significance to the corporation.

- Category 1 facilities are structures with a relatively long service life, meet the City's building condition standards and are highly used by staff and the public. Generally speaking, these facilities do not have major deficiencies nor require significant expenses over and above standard operating, maintenance and major building renewal costs.
- Category 2 facilities are buildings where staff requires further information related to use. Studies and needs assessments for these facilities are planned or underway.
- Category 3 facilities were rated relatively low in terms of service life, building condition and use.

The City's 171 buildings have an approximate total corporate building deficiency in excess of \$100,000,000. The deficiencies are listed in high, medium and low priorities.

High priority deficiencies are building components that have reached end of life or do not meet current legislations or corporate initiatives and should be replaced in the next 0 to 3 years in order to prevent emergency repairs or replacement. The projected high priority building deficiencies are in excess of \$29,000,000. Medium priority deficiencies are building components that are approaching end of life and may require replacement in the next 4 to 10 years. The projected medium priority building deficiencies are in excess of \$47,000,000. Low priority deficiencies are building components that are still in fair to good condition but based on expected useful life they will require replacement in 10 plus years. The projected low priority building deficiencies are in excess of \$24,000,000. The identified deficiencies is based on information that was taken from existing facility studies, condition assessments and staff input. This number represents some of the known building deficiencies and some projected new corporate facilities. Not included in this number are all funds that are required to address council and corporate initiatives, such as the implementation of FADS, corporate compliant security, building automation, information systems standards and Green Energy Act Compliance initiatives.

### **Heritage Building Rehabilitation**

The Old Court House, Montebello Park Pavilion and Band Shell, City Hall, the Morningstar Mill, Dalhousie House, and the Old Robertson School at 85 Church Street are examples of City owned buildings which are classified as Heritage Buildings.

Building Condition Assessments have been carried out on the Heritage Buildings by various consultant teams. Due to the age of these buildings many of the architectural, structural, mechanical and electrical components of these structures have well exceeded their useful service life and will require regular maintenance and rehabilitation in order to preserve the integrity of these buildings. There are also components within these structures that do not meet current codes and regulations with regards to safety which require retrofits in order to remain in operation. The estimated total value of the identified deficiencies for the City's heritage buildings, based on the original and some updated reports, is approximately \$9,000,000.

The 2018 Heritage Building Rehabilitation Program will include an allocation of \$250,000 for repairs at the Morningstar Mill.

### **Roofing Rehabilitation**

The total roof area of all of City buildings is approximately 923,000 square feet. Many of these roofs have either passed or are close to the end of their service lives. Condition assessments and the annual inspections are carried out on many of the roofs. Based on the most recent roof reports it was estimated that the total replacement value of the roofs is \$9.7 million.

The proposed 2018 program includes an allocation of \$85,000 for roof repairs / replacements at the Old Court House, Montebello Park Pavilion, and the St. Catharines Municipal Golf Course Old Clubhouse.

### **Washroom Repair Initiative**

The City has various washroom facilities in parks and buildings throughout the City for use by both the public and staff. The condition of these facilities has deteriorated drastically over the years, requiring that many of them be either rehabilitated or replaced. Washrooms are also a primary component of a building that requires upgrade in order to meet accessibility needs of a facility.

The 2018 Budget includes funds to upgrade the existing washrooms at Port Weller Community Centre, and to make them accessible from the exterior of the building.

### **Arena Improvement Initiative**

There is an estimated deficiency of \$18.6 million within the City's arenas (excluding Meridian Centre). This number represents architectural, structural, mechanical and electrical deficiencies identified in the most recent condition assessments that were carried out on these facilities, along with needs that have been identified by staff. Items not included in the estimated deficiency are upgrades for accessibility, security systems and any other initiatives.

The replacement value for the four older arenas including demolition and replacement with new equivalent size facilities is approximately \$41 million. Priority repairs include those items which did not meet current code as well as deteriorated items which require replacement.

The 2018 Arena Improvement program will have an allocation of \$951,500 to address deficiencies, and to perform preventative maintenance on equipment at Seymour Hannah, Garden City Arena, Bill Burgoyne Arena and Merritton Arena.

### **Accessibility Implementation**

In 2007 approximately 47 City buildings were audited by an external consultant for their compliance with FADS. The final report outlining all of the non-compliant items as a result of the audit was received in 2008. An estimated total of \$5,750,000 in non-compliant items was identified. Typically Council had approved \$250,000 be budgeted annually for the Accessibility Implementation Program.

The 2018 Budget has a \$135,000 allocation included for accessible upgrades to the Bill Burgoyne Arena, Port Weller Community Centre, and the Victoria Lawn Cemetery.

### **General Building Improvement**

Based on the result of recent condition assessments and requirements of regulatory bodies, repairs are required on some of the City Buildings. The 2018 General Building

Improvement Program will include an allocation of \$836,500 to address some of these issues. Items that will be addressed under this program include the structural, architectural, mechanical and electrical components of various City buildings that have reached the end of their service life.

### **Building Reviews and Study Program**

Condition Assessments, inspections and studies are performed on City facilities on an annual basis in order to determine their condition and to quantify the deficiencies that exist. The 2018 Buildings Review and Studies Program has an allocation of \$80,000 for studies at various City facilities including those which ensure compliance with the requirements of regulatory bodies, and to carry out energy audits and feasibility studies.

## **12. Fire Services (Schedule P & Q)**

The 2018 Fire Services program will have an allocation of \$45,000 to carry out repairs to Fire Station #1.

## **13. Parking (Schedule R & S)**

The 2018 Parking Improvement program has an allocation of \$190,000 to carry out preventative maintenance on the Carlisle Street Parking Garage and the Ontario Street Parking Garage.

## **14. Federal Gas Tax Program (FGTP) (Schedule M)**

At its meeting of November 28, 2005, Council received a report from staff regarding possible projects that the City may wish to undertake utilizing funds from the FGTP. One of the requirements of the FGTP is that the expenditures are incremental, meaning that the funds cannot be used to displace current capital investment or reduce municipal taxes.

Council endorsed a five-year capital investment plan for FGTP revenues in 2009 which identified continued funding for combined sewer system upgrades (storm sewer separations) and watermain replacement in conjunction with the combined sewer system upgrade and various road resurfacing projects. Council subsequently shifted focus away from underground infrastructure to include facility energy related initiatives and non-resurfacing roadwork. For 2018 staff recommend a refocusing on underground infrastructure and cycling related initiatives.

The City's share of Gas Tax funding for 2018 is \$4,185,215.

On January 15, 2018, an early budget request was approved for additional funds to award Hartzel Road storm sewer replacement.

Additional details regarding the Active Transportation Program are found in Section 15 External Funding and in a separate report.

## **15. External Funding**

In addition to the Federal Gas Tax Program discussed in Section 14. Other external funding opportunities are listed below which the City has received or requested funding from.

### **Niagara Region: Combined Sewer Overflow Control Policy Funding Program (CSO Map Fund)**

The City has applied for funding from Niagara Region under their Combined Sewer Overflow (CSO) Control Policy Funding Program. The amount requested is \$1,000,000. The applications include pollution control plan projects funded by the Capital Budget.

Project applications are ranked based on reduction, elimination and control of wet weather flows. Under the policy, the Region's share of funding can range from 30% to 80% depending on the effectiveness of the project to meet the priorities set out in the policy.

To date, staff have not been informed if the City's applications have been successful.

### **Federal Government: Infrastructure Investment – Clean Water and Wastewater Fund**

No new Federal Initiatives have been announced to date.

For the 2017 projects, construction on Oakdale Avenue is complete except for top course asphalt; construction on Leeper / MacDonald is 75% complete with one block of Leeper Street remaining; and construction on Barnes / Brighton / Lailey is 50% complete. Due to delays in funding approval, funding deadlines were extended slightly and the City anticipates meeting those funding deadlines.

### **Federal Government: National Disaster Mitigation Fund**

This fund provides Federal assistance for the prevention of future flooding. Funding is limited to disaster hazard assessments or studies or construction, requires 50% contribution by municipalities, and must be spent within 24 months of approval. The NDMF is administered by the Province's Ministry of Municipal Affairs on behalf of Public Safety Canada through a Canada / Ontario bilateral agreement and then Transfer Payment agreements with each municipality.

The City was advised in 2017 it was successful obtaining funding under Intake 3 of this program for ST16-10 Richardson Creek / Francis Creek Flood Plain Mapping and Priority Study. The Province's agreement transfer payment has just been executed.

A 5th intake is anticipated in 2018. When it is announced, staff will review the program's criteria to identify a matching City project. It should be noted, that shoreline erosion

remediation and new shoreline protection is not an eligible expense for this Federal assistance.

### **Provincial: Ontario Municipal Commuter Cycling Program**

Late in 2017 the City was advised the City was eligible for \$552,000 from the Province to be spent on commuter cycling facilities.

This program required municipalities to submit a list of potential projects and if approved the province would fund up to 80% of costs for the improved cycling facility. The remaining 20% of funding must be funded by the City using its own funds. Claims must be submitted by 2020.

Staff recommend that all the approved funds be allocated to Third Street Louth. Utility relocations are currently underway. Should the utility companies finish on schedule, the City construction contract is anticipated to start in 2018. The project is mostly funded by the Road and Drainage Program with a small allocation from Federal Gas Tax. As such the 20% minimum City contribution requirement can be met and the value of this project would expend the total approved external funding.

A separate report related to Active Transportation provides more detail on this external funding program.

### **Provincial / Utilities: SaveONenergy**

SaveOnenergy is a rebate program funded the Independent Electrical System Operator (formerly Ontario Power Authority) with several incentives and rebate programs whose goal is the reduction of energy consumed. For the City's projects, these programs are offered by and administered by Horizon Utilities. The City's LED street light conversion project has made applications for rebates and the anticipated revenues are included in calculations supporting this report. Applications for small City initiatives, such as equipment replacements or audits, will be made on a case by case basis through the year, when applicable.

## **16. Local Improvement Regulations under the Municipal Act**

A method of cost recovery available to the City is the Local Improvement Regulations under the Municipal Act.

No new projects have been identified for 2018 construction which could be subject to the Local Improvement Regulations under the Municipal Act.

## **17. Development Charges**

The most recent review of the Development Charges Study was carried out in 2009. No additional projects have been identified for construction at this time.

## **18. Early Budget Approval (Schedule T)**

Approvals are requested at this time for proceeding with early tendering for the projects and City initiatives listed in Appendix 1, Schedule T.

### **Construction Program**

Construction projects appearing in Appendix 1, Schedule T are comprised of the different categories of the projects as listed in Appendix 1, Schedules A to S.

In order to balance staff workload evenly throughout the year, and to take advantage of very competitive tender prices that traditionally occur early in the construction season, it is recommended to proceed with these projects at this time.

Generally, the budget for each municipal project includes an allocation for design, geotechnical or environmental investigations and relocation of utilities that may conflict with the proposed work. The TES department would recommend that the Director / City Engineer be authorized to approve expenditures for environmental assessments, engineering services, geotechnical investigations and utility relocations provided that the total budget for each project is not exceeded.

In order to further balance staff workload and ensure timely completion of some required works, staff will be hiring consultants to undertake the design and construction administration of certain projects. Staff recommends that the Director / City Engineer be authorized to hire Consultants, in accordance with the City's approved Procurement Policy provided that the total budget for each project is not exceeded.

## **19. Public Notice / Communication**

It is the City's policy to hold Public Information Days for road reconstruction or new sidewalk projects. Notices of the proposed work and dates of the meetings will be hand delivered to the abutting residents and a notice posted on the City's website in accordance with the City's 2009 Communication Policy a minimum one week prior to each meeting. The Mayor and the Ward Councillors will also receive copies of the notices and non-resident property owners will be advised by mail.

It should be noted that Public Information Days are not scheduled for streets upon which planned maintenance such as resurfacing, base repairs and/or crack sealing is proposed.

## Financial Implications

Grand total costs are summarized below in Table 1.

**Table 1**

Budget Year	Budget Type	Total Costs per Budget		
		Total Project Costs	External or Reserve Funding	Net City Share
<b>Approve 2017 Program</b>	Operating	\$2,929,000	\$0	\$2,929,000
	Capital	\$24,302,924	(\$11,530,454)	\$12,772,470
	Water & Wastewater	\$7,600,000	(\$25,000)	\$7,575,000
	Total	\$34,831,924	(\$11,555,454)	\$23,276,470
<b>Proposed 2018 Program</b>	Operating	\$2,903,000	\$0	\$2,903,000
	Capital	\$18,643,397	(\$6,960,313)	\$11,683,084
	Water & Wastewater	\$7,800,000	\$0	\$7,800,000
	Total	\$29,346,397	(\$6,960,313)	\$22,386,084

## Relationship to Strategic Plan

The 2018 Construction Program reflects and implements many of the Strategic Plan's goals and actions. Renewal of existing infrastructure and newly constructed infrastructure is critical to a municipality. The recommendations of this report support the following:

### Economic Stability:

Goal 1: attracting public investment

- by providing safe, reliable, attractive infrastructure and by providing employment opportunities to locally owned companies;

Goal 2: Strive for the highest quality of life for all citizens

- Action 2.4 Optimize capital infrastructure through effective asset management and sustainable investment.

### Social Sustainability:

Goal 4. Strive for the highest quality of life for all citizens. The construction program addresses all areas of the City's infrastructure.

- Action 4.1 implementing a recommendation of the Parks and Recreation Master Plan.
- Action 4.4 implement the St. Catharines accessibility plan, specifically at the Russell Avenue Community Centre and use Ontario's built environment standard as a minimum standard during sidewalk replacements and the construction of new sidewalks.

#### Goal 5: Connect people, places and neighbourhoods

- Action 5.1. To be a city that embraces connectivity between people, places and neighbourhoods.
- Action 5.2 Establish a complete neighbourhoods matrix to ensure that redevelopment of properties enhance the livability of neighbourhoods. All road reconstructions will be designed in consideration of the “Complete Streets” philosophy.
- Action 5.3. Accelerate the implementation of active transportation networks that link people with parks, trails and waterfront and support the development of complete streets.

### **Environmental Sustainability**

#### Goal 7: Lead in the protection of our environment for future generations.

- Action 7.1. Establish a plan to integrate green energy and sustainable technologies in municipal infrastructure and program delivery.
- Action 7.2. Continue to achieve the tree canopy targets in the city as identified in the Urban Forestry Management Plan. All road reconstruction and new building projects include provisions for greening. All other infrastructure includes funding for replacement of any trees removed by the proposed construction.
- Action 7.3. Increase protection of our water resources by working with partners to reduce pollution and ensure long-term sustainability. CSO reductions proposed by the Burleigh Hill CSO Project and storm sewer separation projects will directly improve water quality in our watercourses.
- Action 7.4. Maintain and enhance the health and accessibility of our waterfront through the waterfront trail system, municipal beaches, rivers and creeks,

#### Goal 8: Be prepared for the impacts of climate change.

- Action: 8.1. Review and update all municipal operations to minimize the impacts of and ensure preparation for climate change including winter control procedures and flooding. All sanitary sewer and storm sewer designs are undertaken using updated design criteria.

### **Conclusion**

TES annually undertakes a large and varied construction program to maintain the City's infrastructure. The various programs from sidewalks to sewers to structures are funded by several budgets. As all 2018 budget approvals have not yet been granted, staff recommend the construction program be approved and early budget approval be granted for those projects identified in Appendix 1, Schedule T. Also to prepare for timely construction tenders, staff seeks budget approval to carry out engineering and associated investigations necessary to prepare tenders for the balance of the construction program.

**Prepared by:**

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SCHEDULE A

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 ROAD & DRAINAGE IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P13-067	415.080.000	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	\$170,000	Additional funding for road reconstruction and drainage improvements in conjunction with watermain, sanitary sewer and storm sewer works
P15-066	415.065.000	MOFFATT STREET RECONSTRUCTION	Moffatt Street	North Limit	South Limit	\$300,000	Additional funds required for anticipated utility relocations in advance of future road reconstruction
P15-067	415.066.000	THIRD STREET LOUTH ROAD IMPROVEMENTS	Third Street	South Service Road	Third Avenue	\$2,650,000	Road reconstruction to accommodate active transportation including \$552,098 from Ontario Commuter Cycling Fund
P16-065	415.056.000	DOWNTOWN STREET SYSTEM CONVERSION	Church Street	Niagara Street	King Street	\$675,000	Additional funds for city's share of costs for the downtown two way traffic street conversion
			Geneva Street	Church Street	St Paul Street		
			Niagara Street	Geneva Street	Church Street		
			Queenston Street	Geneva Street	Riordon Street		
			St Paul Street	Geneva Street	Court Street		
P17-064	415.067.000	HIGHLAND AVENUE RECONSTRUCTION	Highland Avenue	Ridgewood Road	Rockcliffe Road	\$187,000	Additional funds for road reconstruction in conjunction with sidewalk replacement
			Ridgewood Road	Highland Avenue	Riverdale Avenue		Top Course asphalt following 2017/ 2018 reconstruction
P17-068	415.049.000	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	\$30,000	Additional funding for road reconstruction and drainage improvements in conjunction with watermain replacement
P18-061		GALE CRESCENT ROAD IMPROVEMENTS	Gale Cres	Geneva Street	Oakdale Avenue	\$100,000	Engineering Services for an Environmental Assessment and Design for future road reconstruction

SCHEDULE A

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 ROAD & DRAINAGE IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-062		LAKE STREET ROAD IMPROVEMENTS	Lake Street	Welland Avenue	Queen Street	\$100,000	Engineering Services for an Environmental Assessment and Design for future road reconstruction
P18-063		MERRITT STREET ROAD IMPROVEMENTS	Merritt Street	Almond Lane	Walnut Street	\$100,000	Engineering services for an Environmental Assessment and Design for future road reconstruction
P18-064		RACE STREET PARKING IMPROVEMENTS	Race Street	McGuire Street	Carlisle Street	\$77,000	Improvements to Race Street to improve parking in conjunction with new sidewalk to be installed on the traffic island
P18-080		2018 RESURFACING PROGRAM	Pelham Road	Nash Street	Kent Street	\$595,682	Spot curb repairs, milling and asphalt resurfacing
			Queenston Street	Page Street	Eastchester Avenue		Top course asphalt following reconstruction in 2017
			Various				
ST18-09		MERRITT STREET GUIDERAIL	Merritt Street	Ball Avenue E	Ball Avenue W	\$80,000	Feasibility Study and Preliminary Design for guiderail improvements
ST18-12		RIDLEY ROAD NEIGHBOURHOOD TRAFFIC MANAGEMENT STUDY				\$60,000	Traffic management study in residential neighbourhood near future GO station
					TOTAL: \$5,124,682		

SCHEDULE B

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 ROAD & DRAINAGE IMPROVEMENT PROGRAM

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-080		2018 RESURFACING PROGRAM	Beecher Street	Raymond Street	Welland Avenue	\$1,966,000	Spot curb repairs, milling and asphalt resurfacing
			Broadway	Seaway Haulage Road	North Limit		Milling, base repairs and asphalt resurfacing
			Churchill Street	Chetwood Street	Rykert Street		Top course asphalt following reconstruction in 2017
			Croydon Drive	Arthur Street	Arthur Street		Spot curb repairs, milling and asphalt resurfacing
			Duncan Drive	Linwell Road	Parnell Road		Milling, base repairs and asphalt resurfacing
			Export Avenue	Dieppe Road	Welland Avenue		Milling, base repairs and asphalt resurfacing
			Gerrard Street	Raymond Street	Welland Avenue		Spot curb repairs, milling and asphalt resurfacing
			Hetherington Street	Catherine Street	Francis Street		Spot curb repairs, full depth milling and asphalt resurfacing
			Lake Street	North Service Road	Lakeport Road		Spot curb repairs, milling and asphalt resurfacing
			North Entrance Pen Centre	Jacobson Avenue	Pen Centre		Spot curb repairs, milling and asphalt resurfacing
			Old Fourth Avenue	Fourth Avenue	West Limit		Pulverize and resurface existing rural road
			Rockwood Avenue	Hartzel Road	Thornton Street		Milling, base repairs and asphalt resurfacing

**SCHEDULE B**  
**CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT**  
**PROPOSED 2018 ROAD & DRAINAGE IMPROVEMENT PROGRAM**  
**OPERATING BUDGET**

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-080		2018 RESURFACING PROGRAM	Rockwood Avenue	Woodrow Street	80m E of St Augustine Drive	\$1,966,000	Milling, base repairs and asphalt resurfacing
	South Entrance Pen Centre		Jacobson Avenue	Pen Centre	Spot curb repairs, milling and asphalt resurfacing		
	Various						
	Welland Canals Parkway		Approx. 75m south of Glendale	Approx. 185m south of Glendale Avenue	Spot curb repairs, full depth milling and asphalt resurfacing		
	Winnifred Avenue		Grantham Avenue	Flanders Avenue	Milling, base repairs and asphalt resurfacing		
P18-081		2018 ASPHALT BASE REPAIR PROGRAM	City Wide			\$50,000	Annual Program, spot base repair and resurfacing
P18-082		2018 CONCRETE BASE REPAIR PROGRAM	Various City Wide			\$100,000	Annual Program
P18-083		2018 CRACK SEALING PROGRAM	Various City Wide			\$100,000	Annual Program
P18-085		2018 GUIDERAIL PROGRAM	Various City Wide			\$65,000	Annual Program to repair existing guiderail and or install new guiderail
P18-086		DESIGN FOR 2018 PROJECTS	City Wide			\$10,000	Engineering Services for future road construction projects
P18-092		2018 BOULEVARD REINSTATEMENTS	City Wide			\$5,000	Annual Program
ST18-05		DTIMS UPDATE				\$10,000	Annual software update and license
					TOTAL: \$2,306,000		

SCHEDULE C

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BRIDGE & CULVERT REHABILITATION PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-122		2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	at Lock 21	\$300,000	Removal of structure
			Merritt Trail	Second Welland Canal	at Lock 10		Repairs to existing pedestrian bridge to address identified deficiencies
			Merritt Trail	Second Welland Canal	at Lock 8		Repairs to existing pedestrian bridge to address identified deficiencies
			Old Martindale Road	Green Ribbon Trail	at Richardson Creek		Repairs to existing pedestrian bridge to address identified deficiencies
			Trillium Railway	CNR			Removal of structure
					TOTAL: \$300,000		

SCHEDULE D

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BRIDGE & CULVERT REHABILITATION PROGRAM

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-120	721.954.000	2018 BRIDGE REHABILITATION PROGRAM	City Wide			\$65,000	Annual Program - asphalt surface, approach, concrete and structural repairs, vegetation and debris removal
P18-121	721.955.000	2018 LARGE CULVERT REHABILITATION PROGRAM	City Wide			\$60,000	Annual Program - structural and gabion repairs, slope stabilization, erosion and debris removal
						<b>TOTAL:    \$125,000</b>	

SCHEDULE E

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 SIDEWALK CONSTRUCTION PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P13-019		BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Warkdale Drive	Burleigh Hill Drive	approx. 80m west of Burleigh Hill	\$40,000	New sidewalk at Sainte-Marguerite-Bourgeoys Elementary Catholic School in conjunction with sewer works
P18-040	720.100.500	2018 WALKWAY IMPROVEMENTS	City Wide			\$50,000	Annual program, priority location(s) to be determined
P18-041		2018 NEW SIDEWALK CONSTRUCTION PROGRAM	City Wide			\$230,000	Priority location(s) to be determined
P18-064		RACE STREET PARKING IMPROVEMENTS	Race Street	McGuire Street	Carlisle Street	\$30,000	New sidewalk on traffic island in conjunction with Race Street improvements
						<b>TOTAL:    \$350,000</b>	

SCHEDULE F

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 SIDEWALK REHABILITATION PROGRAM

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-040 *	720.100.500	2018 CONCRETE SIDEWALK REPAIR PROGRAM	City Wide	City Wide	City Wide	\$350,000	Annual Program, priority locations(s) to be determined
					TOTAL: \$350,000		

SCHEDULE G

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 SANITARY SEWER IMPROVEMENT PROGRAM

WASTEWATER BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P13-067		MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	\$483,000	Additional funds to replace deteriorated combined sewer in conjunction with watermain works and road reconstruction
P16-061		GREENWOOD AVENUE / BEATRICE STREET	Beatrice Street	Dundonald Street	End	\$42,000	Additional funds to replace sanitary sewers
			Greenwood Avenue	Bunting Road	Dundonald Street		
P16-063		ST GEORGE STREET	St George Street	Dieppe Road	Facer Street	\$734,000	Additional funds to replace deteriorated sanitary sewers in conjunction with storm sewer works
P17-007		BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Kilbourne Cres	Grosvenor Street	Foxglove Avenue	\$246,000	Additional funds to repair deteriorated sewer sections in conjunction with watermain works
			Oriole Drive	Grantham Avenue	Foxglove Avenue		
P17-009		YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	\$170,000	Additional funds for sewer replacement in conjunction with new storm sewer and watermain works (plus tentative Niagara Region CSO Map funding)
P18-011		2018 SPOT REPAIR PROGRAM	City Wide			\$100,000	Spot repairs for sewers in various locations
P18-012		2018 SANITARY SEWER FLUSHING & REAMING	City Wide			\$25,000	Reaming program, the physical cleaning of selected sewer sections with operational issues
P18-014		2018 CCTV SEWER INSPECTION	City Wide			\$125,000	CCTV inspection of existing sewers to identify condition and future works
P18-015		DESIGN FOR 2019 PROJECTS	City Wide			\$25,000	Engineering services for 2019 construction projects
ST18-10		MASTER SERVICING STUDY	City Wide			\$350,000	City wide study of sewers to determine possible future servicing needs
					TOTAL: \$2,300,000		

SCHEDULE H

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 STORM SEWER IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P15-007		FRANCIS CREEK DRAIN IMPROVEMENTS	Francis Creek	Ridley Road	30m north of Fourth Avenue	\$1,037,000	Additional funds for channel cleaning, bank stabilization and erosion control to improve the drain's function
P16-003		ELSE STREET	Else Street	Linwell Road	Scott Street	\$510,000	Additional funds for storm sewer construction for CSO control (with a share of cost tentitvely funded under Niagara Region CSO Map funding)
P16-063		ST GEORGE STREET	St George Street	Dieppe Road	Facer Street	\$20,000	Additional funds for storm sewer construction with sanitary sewer works
P16-104		PARK AVENUE	Park Avenue	Cedardale Avenue	Seymour Avenue	\$40,000	Additional funds for storm sewer construction in conjunction with watermain works
P17-009		YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	\$20,000	Additional funds for storm sewer construction in conjunction with sanitary sewer and watermain replacement
P17-020		ADMIRAL / PARK STORM SEWERS	Admiral Road  Park Avenue	Ferndale Avenue  Admiral Road	Park Avenue  Rockwood Avenue	\$80,000	Additional funds for storm sewer construction in advance of future roadworks
P17-063		GLENWOOD / SOUTH RECONSTRUCTION	Glenwood Avenue  South Drive	Rockcliffe Road  Cliff Road	End  Rockcliffe Road	\$70,000	Funds for Engineering Services to initiate combined sewer separation in conjunction with future watermain and roadworks
P18-006		CATCH BASINS AND STORM SERVICE INSTALLATIONS	City Wide			\$80,000	Installations of catch basins, catch basin leads and storm laterals to alleviate isolated surface flooding
ST18-11		MAPLEWOOD AREA STORM SEWER STUDY	Maplewood Drive		Maplewood Dr and Surrounding Area	\$20,000	Storm sewer study on Maplewood and the surrounding area to alleviate flooding issues
					TOTAL: \$1,877,000		

SCHEDULE I

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 POLLUTION CONTROL PLAN

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P13-019	445.453.000	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL				\$2,500,000	Additional funds for installation of CSO storage facility and inlet sewer including tentative Regional CSO-Map funds
					TOTAL: \$2,500,000		

SCHEDULE J

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 WATER SYSTEM IMPROVEMENT PROGRAM

WATER BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P13-067	520.323.000	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	\$245,000	Additional funds to replace C.I. watermain in conjunction with sewer and road re-construction
P16-101		CLOVER/HEYWOOD/SANDY COVE	Clover Street	Heywood Avenue	Mckenzie Street	\$315,000	Additional funds to replace C.I. and D.I. watermains
			Heywood Avenue	Niagara Street	Clover Street		
			Sandy Cove	Shoreline Drive	Cul-de-sac		
P16-103		GLENDALE AVENUE	Glendale Avenue	Glenridge Avenue	Valerie Drive	\$515,000	Additional funds to replace C.I. watermains
			Glendale Avenue	Marlene Drive	Jacobson Avenue		
			Glendale Avenue	Valerie Drive	Marlene Drive		
P16-104		PARK AVENUE	Park Avenue	Grove Avenue	Rockwood Avenue	\$755,000	Additional funds to replace D.I. watermain
			Park Avenue	Seymour Avenue	Grove Avenue		
			Park Avenue	South Limit	Seymour Avenue		

SCHEDULE J

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 WATER SYSTEM IMPROVEMENT PROGRAM

WATER BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P17-007		BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Bessborough Drive	Grantham Avenue	Foxglove Avenue	\$885,000	Additional funds to replace C.I. watermains in conjunction with sewer rehabilitation
			Daley Drive	Grantham Avenue	Edinburgh Drive		
			Grosvenor Street	Grantham Avenue	Foxglove Avenue		
			Kilbourne Cres	Grosvenor Street	Foxglove Avenue		
			Oriole Drive	Graham Avenue	Foxglove Avenue		
P17-008		BURNESS DRIVE UNDERGROUND IMPROVEMENTS	Burness Drive	Ferndale Avenue	Alexandra Blvd	\$180,000	Additional funds to replace C.I. watermain in conjunction with sewer replacement
P17-009		YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	\$165,000	Additional funds to replace C.I. watermain in conjunction with storm and sanitary sewer works
P17-068		TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	\$50,000	Additional funds to replace C.I. watermain in conjunction with road reconstruction
P17-100		BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Briarsdale Drive	Chestnut Street W	Glen Morris Drive (North Leg)	\$310,000	Additional funds to replace and upgrade A.C. and C.I. watermains
			Glen Morris Drive (North Leg)	Adelene Cres	Village Road		
			Glen Morris Drive (North Leg)	Jacobson Avenue	Briarsdale Drive		
P17-101		BROMLEY DRIVE WATERMAIN REPLACEMENT	Bromley Drive	Stepney Street	South Limit	\$30,000	Additional funds to replace existing C.I. watermain in conjunction with new development

SCHEDULE J

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 WATER SYSTEM IMPROVEMENT PROGRAM

WATER BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P17-104		LAKESHORE / SEAWAY HAULAGE WATERMAIN REPLACEMENT	Lakeshore Road	Broadway	Seaway Haulage Road	\$1,150,000	Additional funds to replace existing D.I. watermain
			Seaway Haulage Road	Lakeshore Road	Keefer Road		
P17-105		NANCY / ROSEMOUNT WATERMAIN REPLACEMENT	Nancy Drive	Vine Street	Strathcona Drive	\$800,000	Additional funds to replace existing C.I. watermain
			Rosemount Avenue	Vine Street	Gordon Place		
P18-118		VALVES, HYDRANTS & SERVICES	City Wide	City Wide		\$50,000	Replace existing valves, hydrants and services etc. in conjunction with other works
P18-119		DESIGN FOR 2019 PROJECTS	City Wide	City Wide		\$50,000	Design for 2019 projects
					TOTAL: \$5,500,000		

SCHEDULE K

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 SHORELINE PROTECTION PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-132	430.621.000	SHORELINE PROTECTION PROGRAM	City Wide			\$100,000	Undertake engineering studies about existing infrastructure and unprotected sites along Lake Ontario
					TOTAL: \$100,000		

SCHEDULE L

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 WATERCOURSE REHABILITATION PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P17-129	430.381.000	WATERCOURSE REHABILITATION 2017	Martindale Pond	Martindale Pond	Lakeport Road	\$150,000	Partial funding to address identified deficiencies in stop logs and abutments
					TOTAL: \$150,000		

SCHEDULE M

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 FEDERAL GAS TAX PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P13-019		BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Burleigh Hill Drive	Glendale Avenue	Warkdale Drive	\$458,215	Existing C.I. watermain replacement in conjunction with sewer improvements and Regional Road reconstruction
P15-067		THIRD STREET LOUTH ROAD IMPROVEMENTS	Third Street	South Service Road	Third Avenue	\$250,000	Partial funding for road resurfacing in conjunction with road widening for active transportation initiative
P15-117	435.531.000	WATER METER REPLACEMENT PROGRAM	City Wide			\$1,000,000	Additional funds (year 5) of multi-year project
P16-004		RODGER STREET / SHARON STREET	Rodger Street	Glen Park Road	Linwell Road	\$267,000	Additional funding for storm sewer and road improvements to alleviate surface flooding
			Sharon Street	Glen Park Road	Linwell Road		
P16-008		HARTZEL ROAD	Hartzel Road	Queenston Street	Lincoln Avenue	\$485,000	Additional funds to replace storm drainage system to alleviate surface flooding (early budget approval January 15, 2018)
P16-061		GREENWOOD AVENUE / BEATRICE STREET	Beatrice Street	Dundonald Street	End	\$410,000	Additional funds to replace sanitary sewers
			Greenwood Avenue	Bunting Road	Dundonald Street		
P17-008		BURNESS DRIVE UNDERGROUND IMPROVEMENTS	Burness Drive	Ferndale Avenue	Alexandra Blvd	\$495,000	Additional funds to replace sewer in conjunction with watermain works
P17-068		TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	\$70,000	Funds to replace sewer in conjunction with watermain replacement and road works
P17-125	415.041.000	2017 BRIDGE REHABILITATION PROGRAM	Dunkirk Road	Cushman Road		\$80,000	Additional funding for engineering services (detailed design) for bridge with identified deficiencies
P18-069		ACTIVE TRANSPORTATION PROGRAM	St Davids Road	Highway 406		\$150,000	Partial funding of City's Share of costs for a Multi-Use Path constructed by MTO for Region (50%), Thorold (25%) and St. Catharines (25%)

SCHEDULE M

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 FEDERAL GAS TAX PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	LOCATION	FROM	TO	PROJECT COST	REMARKS
P18-100		CHAMPA DRIVE WATERMAIN	Champa Drive	Scott Street	Agar Drive	\$35,000	Engineering Services for existing C.I. watermain replacement
P18-101		RENDALE AVENUE WATERMAIN	Rendale Avenue	Dorchester Blvd	Cushman Road	\$50,000	Engineering Services for replacement of existing C.I. watermain
P18-102		SMYTHE STREET WATERMAIN	Smythe Street	Oakdale Avenue	Haight Street	\$185,000	Replace existing C.I. watermain
P18-123		THIRD AVENUE LOUTH BRIDGE	Third Avenue	At Richardson Creek		\$60,000	Engineering Services to initiate bridge rehabilitation to address identified bridge deficiencies
RN18-A		MARTINDALE ROAD IMPROVEMENTS	Martindale Road	South Service Road	Bridge Street	\$190,000	City's share of costs for new and existing sidewalks in conjunction with Regional road reconstruction
					TOTAL: \$4,185,215		

SCHEDULE N

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
Maint 2018-5		BILL BURGOYNE ARENA REPAIRS Install puck netting	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$45,000	Ensure integrity of public safety
Maint 2018-7		MERRITTON ARENA Install electrical outlet	MERRITTON ARENA	Building Improvement - Tangible Capital Asset	\$1,500	Improve user experience
Maint 2018-8		SEYMOUR HANNAH REPAIRS Replace sprinkler valves	SEYMOUR HANNAH ARENA	Building Improvement - Tangible Capital Asset	\$35,000	To address building deficiency
P18-131		HAPPY ROLPHS BIRD SANCTUARY Screening for animal pens and sun protection	HAPPY ROLPH'S BIRD SANCTUARY	PRCS General Building Rehabilitation	\$30,000	Ensure safety of animals
P18-134		PAVILION ROOF Replace pavilion roof	MONTEBELLO PARK	Building Improvement - Tangible Capital Asset	\$60,000	To address identified roofing deficiency
P18-137		DOUGLAS PARK IMPROVEMENTS Playground equipment upgrade	DOUGLAS PARK	PRCS General Building Rehabilitation	\$100,000	Park upgrades
P18-140-1		CITY HALL REPAIRS Remove asbestos and repair hallway 3rd floor	CITY HALL	Heritage Building Rehabilitation	\$75,000	To address building deficiency and remove hazardous materials
P18-140-2		CITY HALL REPAIRS Council Chambers - Microphone Replacement	CITY HALL	Heritage Building Rehabilitation	\$25,000	To upgrade existing microphones
P18-141-1		MARKET SQUARE - REPAIRS Reseal and coating of concrete floor	MARKET SQUARE BUILDING AREA	TES General Building Rehabilitation	\$60,000	Perform preventative maintenance
P18-141-2		MARKET SQUARE - UPGRADE Lighting conversion to LED	MARKET SQUARE BUILDING AREA	TES General Building Rehabilitation	\$50,000	Improve overall energy efficiency
P18-144		BUCHANAN HOUSE - UPGRADES Implement security	BUCHANAN HOUSE	TES General Building Rehabilitation	\$50,000	Funding for site security upgrade
P18-145		BUCHANAN HOUSE - REPAIRS Repair floor drains in basement	BUCHANAN HOUSE	Heritage Building Rehabilitation	\$40,000	To improve plumbing performance

SCHEDULE N

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
P18-160-1		MERRITTON ARENA - UPGRADES Replace head cooling pump / condensor pump	MERRITTON ARENA	Building Improvement - Tangible Capital Asset	\$20,000	Asset renewal
		Replace dehumidifier	MERRITTON ARENA	Building Improvement - Tangible Capital Asset	\$40,000	Asset renewal
P18-160-2		MERRITTON ARENA REPAIRS Resurface Zamboni access area and snow melt area	MERRITTON ARENA	Building Improvement - Tangible Capital Asset	\$50,000	To address building deficiency
P18-161		GARDEN CITY ARENA COMPLEX REPAIRS Replace damaged rubber flooring	GARDEN CITY ARENA	Building Improvement - Tangible Capital Asset	\$40,000	To address building deficiency
P18-162		GARDEN CITY ARENA COMPLEX UPGRADES Install CO sensors in public areas	GARDEN CITY ARENA	Building Improvement - Tangible Capital Asset	\$10,000	Ensure intergrity of public safety
P18-164-1		SEYMOUR HANNAH UPGRADE Upgrade dehumidification system for pad 1/2	SEYMOUR HANNAH ARENA	Building Improvement - Tangible Capital Asset	\$300,000	Dehumidification upgrade to improve performance and user experience
P18-164-2		SEYMOUR HANNAH REPAIRS Replace puck netting	SEYMOUR HANNAH ARENA	Building Improvement - Tangible Capital Asset	\$50,000	Ensure integrity of public safety
P18-164-3		SEYMOUR HANNAH Install battery packs on Zamboni Doors	SEYMOUR HANNAH ARENA	Building Improvement - Tangible Capital Asset	\$20,000	Ensure intergrity of staff safety
P18-165		BILL BURGOYNE ARENA UPGRADES Install door to isolate bowl from change rooms	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$100,000	Funds to provide doors to improve HVAC and Dehumidification performance
P18-166		BILL BURGOYNE ARENA UPGRADES Replace compressor 1	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$65,000	Asset renewal
		Replace compressor 2 / Motor	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$75,000	Asset renewal
		Modify electrical panel and controls	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$100,000	Asset renewal

SCHEDULE N

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
P18-167		VLC IMPROVEMENT Demolish old administration building	VICTORIA LAWN CEMETERY	PRCS General Building Rehabilitation	\$25,000	Demolish existing building once new administration building is completed
P18-168		VLC IMPROVEMENTS Administration Building - Additional Funds	VICTORIA LAWN CEMETERY	PRCS General Building Rehabilitation	\$450,000	Additional funds for new administration building
		Administration Building - Additional Funds Accessibility	VICTORIA LAWN CEMETERY	Accessibility Implementation	\$50,000	Accessibility upgrades
P18-174-1		KAC IMPROVEMENTS RegROUT pool deck	KIWANIS ACQUATICS CENTRE AND LIBRARY	PRCS General Building Rehabilitation	\$90,000	To address building deficiency
P18-174-2		KAC IMPROVEMENTS Install VFD on HVAC unit	KIWANIS ACQUATICS CENTRE AND LIBRARY	PRCS General Building Rehabilitation	\$30,000	Improve energy efficiency
P18-174-3		KAC IMPROVEMENTS Additional lighting	KIWANIS ACQUATICS CENTRE AND LIBRARY	PRCS General Building Rehabilitation	\$45,000	Ensure intergrity of public safety
P18-174-4		PEARSON PARK / CLIFFORDS CREEK PARK Tennis Court Rehabilitation	LESTER B PEARSON PARK	PRCS General Building Rehabilitation	\$150,000	Park upgrades
		Basketball Court Rehabilitation	CLIFFORD CREEK PARK	PRCS General Building Rehabilitation	\$75,000	Park upgrades
P18-175		GOLF COURSE - OLD CLUBHOUSE Replace clubhouse roof	GARDEN CITY GOLF COURSE (MUNICIPAL)	Building Improvement - Tangible Capital Asset	\$15,000	To address identified roofing deficiency
P18-177		MORNINGSTAR MILL REPAIRS Repainting of Grist Mill Phase 2	MORNINGSTAR MILL	Heritage Building Rehabilitation	\$250,000	Heritage repairs to existing grist mill
P18-178-1		PORT WELLER COMMUNITY CENTRE UPGRADES Update and add parking lot lighting	PORT WELLER COMMUNITY CENTRE	PRCS General Building Rehabilitation	\$50,000	To address lighting deficiency and site safety

SCHEDULE N

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
P18-178-2		PORT WELLER COMMUNITY CENTRE WASHROOMS Implement accessibility	PORT WELLER COMMUNITY CENTRE	Accessibility Implementation	\$60,000	Funding for accessible features within renovated washrooms
		Renovate washrooms and make accessible from exterior	PORT WELLER COMMUNITY CENTRE	PRCS General Building Rehabilitation	\$600,000	Funding to renovate existing washrooms and make accessible from the exterior of the building
P18-178-3		PORT WELLER COMMUNITY CENTRE Splash pad - Additional funds	PORT WELLER COMMUNITY CENTRE	PRCS General Building Rehabilitation	\$65,000	Additional funds for Bogart Street Park Splash Pad
P18-181		ST. CATHARINES MUSEUM UPGRADES Replace HVAC system - Additional funds	ST. CATHARINES MUSEUM	PRCS General Building Rehabilitation	\$900,000	Additional funds for HVAC system replacement
ST18-016		BILL BURGOYNE ARENA Preliminary design for accessible upgrades	BILL BURGOYNE ARENA	Accessibility Implementation	\$25,000	Funds to conduct preliminary design for building accessibility upgrades
					<b>TOTAL:</b>	<b>\$4,321,500</b>

SCHEDULE O

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
Maint 2018-1		CITY HALL - IMPROVEMENTS General repairs and painting	CITY HALL	TES General Building Rehabilitation	\$10,000	To address building deficiencies
Maint 2018-10		GARDEN CITY ARENA COMPLEX Replace LED lights in scoreboard	GARDEN CITY ARENA	Building Improvement - Tangible Capital Asset	\$5,000	Improve user experience and proper functioning of equipment
Maint 2018-3		BILL BURGOYNE ARENA Replace rubber flooring in benches	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$2,000	To address building deficiency
Maint 2018-4		BILL BURGOYNE ARENA Replace lights in score clock	BILL BURGOYNE ARENA	Building Improvement - Tangible Capital Asset	\$5,000	Improve user experience and proper functioning equipment
Maint 2018-6		SEYMOUR HANNAH REPAIRS Bird proof and clean steel entrance canopies	SEYMOUR HANNAH ARENA	Building Improvement - Tangible Capital Asset	\$10,000	Improve cleanliness of facility and user experience
Maint 2018-9		SEYMOUR HANNAH Replace hand dryers	SEYMOUR HANNAH ARENA	Building Improvement - Tangible Capital Asset	\$10,000	Improve energy efficiency
P18-143		OLD COURT HOUSE - ROOF Roof maintenance and repairs	OLD COURT HOUSE	Building Improvement - Tangible Capital Asset	\$10,000	Heritage repairs to address identified roofing deficiency
P18-148		MERRITTON PARK Paint parking lot lines	MERRITTON COMMUNITY PARK	PRCS General Building Rehabilitation	\$5,000	To address building deficiency
ST18-001	702.415.417	GENERAL CONSULTING Roof Reviews	VARIOUS	Building Review Study	\$15,000	Annual Review
ST18-002	702.415.417	GENERAL CONSULTING Fall Arrest Inspections	VARIOUS	Building Review Study	\$5,000	Annual Review
ST18-003	702.415.417	GENERAL CONSULTING Asbestos annual update inspections	VARIOUS	Building Review Study	\$15,000	Annual Review
ST18-004	702.415.417	GENERAL CONSULTING Energy audits	VARIOUS	Building Review Study	\$15,000	Annual Review

SCHEDULE O

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
ST18-006		REAR INNER RANGE LIGHTHOUSE - STUDY Condition assessment - Flood damage	PORT LIGHTHOUSE	Building Review Study	\$10,000	Study to review and assess flooding damage
ST18-014	702.415.417	GENERAL CONSULTING Refrigeration Contract Review	VARIOUS	Building Review Study	\$10,000	Annual Review
ST18-015		SEYMOUR HANNAH Power quality investigation	SEYMOUR HANNAH ARENA	Building Review Study	\$10,000	Investigate reoccurring power concerns
					<b>TOTAL:</b>	<b>\$137,000</b>

SCHEDULE P

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM - FIRE SERVICES

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
P18-153		FIREHALL #1- GENEVA ST IMPROVEMENTS Replace and level garage floor slab	FIRE HALL # 1 (GENEVA STREET)	Fire Services General Building Improvement	\$40,000	To address safety concerns
					<b>TOTAL:</b>	<b>\$40,000</b>

SCHEDULE Q

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM - FIRE SERVICES

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
Maint 2018-2		FIREHALL #1 - GENEVA ST Paint Bay doors	FIRE HALL # 1 (GENEVA STREET)	Fire Services General Building Improvement	\$5,000	To address building deficiency
					TOTAL: \$5,000	

SCHEDULE R

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM - PARKING

CAPITAL BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
P18-151-2		CARLISLE STREET PARKING GARAGE REPAIRS Membrane Repairs	CARLISLE ST PARKING GARAGE	Parking Services General Building Improvement	\$50,000	Perform preventative maintenance
		Concrete Structural Drain Repairs	CARLISLE ST PARKING GARAGE	Parking Services General Building Improvement	\$50,000	Perform preventative maintenance
		Crack repairs- Stairwells	CARLISLE ST PARKING GARAGE	Parking Services General Building Improvement	\$15,000	Perform preventative maintenance
P18-151-3		CARLISLE STREET PARKING GARAGE IMPROVEMEN Install 2" high flow water line for cleaning	CARLISLE ST PARKING GARAGE	Parking Services General Building Improvement	\$30,000	Improve cleaning procedure for the facility

TOTAL: \$145,000

SCHEDULE S

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT

PROPOSED 2018 BUILDING IMPROVEMENT PROGRAM - PARKING

OPERATING BUDGET

PROJECT NUMBER	ACCOUNT NUMBER	PROJECT NAME	FACILITY NAME	PROGRAM TITLE	PROJECT COST	REMARKS
P18-151-1		CARLISLE STREET PARKING GARAGE Waterproofing inspection and cleaning	CARLISLE ST PARKING GARAGE	Parking Services General Building Improvement	\$20,000	Perform preventative maintenance
ST18-013		ONTARIO STREET PARKING GARAGE Annual Strand Monitoring	ONTARIO ST PARKING GARAGE	Building Review Study	\$25,000	Annual monitoring of structural integrity
					<b>TOTAL:</b>	<b>\$45,000</b>

CITY OF ST. CATHARINES - TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT  
EARLY BUDGET APPROVALS

Project				Budget Amounts													
#	Program	Facility	Title	Annual				Capital							Wastewater	Water	TOTAL BUDGET
				Road or Bridge	Sidewalk	Facility	Operating	Road or Bridge	Storm Sewer	Sanitary	Facility	Gas Tax	Region - Cost Share	Other			
P16-101	CLOVER/HEYWOOD/SANDY COVE															\$315,000	\$315,000
P16-103	GLENDALE AVENUE															\$515,000	\$515,000
P16-104	PARK AVENUE															\$755,000	\$755,000
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS															\$310,000	\$310,000
P18-012	2018 SANITARY SEWER FLUSHING & REAMING														\$215,080		\$215,080
P18-014	2018 CCTV SEWER INSPECTION														\$125,000		\$125,000
P18-081	2018 ASPHALT PATCHING PROGRAM														\$88,360	\$221,000	\$309,360
P18-168	PRCS General Building Rehabilitation	VICTORIA LAWN CEMETERY	Administration Building - Additional Funds								\$500,000						\$500,000
P18-178-3	PRCS General Building Rehabilitation	PORT WELLER COMMUNITY	Splash pad - Additional funds								\$65,000						\$65,000
Totals				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$565,000	\$0	\$0	\$0	\$428,440	\$2,116,000	\$3,109,440

**APPENDIX 2 - 2018 CONSTRUCTION PROGRAM - WARD LISTING - NON FACILITIES**
**2**

PROJECT NUMBER	PROJECT TITLE	LOCATION	FROM	TO	BUDGET	WARD	
P18-069	ACTIVE TRANSPORTATION PROGRAM	St Davids Road	Highway 406	-	Gas Tax - Capital	1	2
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Church Street	Niagara Street	King Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Geneva Street	Church Street	St Paul Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Niagara Street	Geneva Street	Church Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Queenston Street	Geneva Street	Riordon Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	St Paul Street	Geneva Street	Court Street	Road - Capital	1	4
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	-	-	-	Pollution Control Plan - Capital	1	
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Burleigh Hill Drive	Glendale Avenue	Warkdale Drive	Gas Tax - Capital	1	
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Burleigh Hill Drive	Glendale Avenue	Warkdale Drive	Sidewalk - New - Capital	1	
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Warkdale Drive	Burleigh Hill Drive	80m W of Burleigh Hill Drive	Sidewalk - New - Capital	1	
P15-066	MOFFATT STREET RECONSTRUCTION	Moffatt Street	North Limit	South Limit	Road - Capital	1	
P16-008	HARTZEL ROAD	Hartzel Road	Queenston Street	Lincoln Avenue	Gas Tax - Capital	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Beatrice Street	Dundonald Street	End	Gas Tax - Capital	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Beatrice Street	Dundonald Street	End	Sanitary Sewer - Annual	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Greenwood Avenue	Bunting Road	Dundonald Street	Gas Tax - Capital	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Greenwood Avenue	Bunting Road	Dundonald Street	Sanitary Sewer - Annual	1	
P16-104	PARK AVENUE	Park Avenue	Cedardale Avenue	Seymour Avenue	Storm Sewer - Capital	1	
P16-104	PARK AVENUE	Park Avenue	South Limit	Rockwood Avenue	Water	1	
P17-008	BURNES DRIVE UNDERGROUND IMPROVEMENTS	Burness Drive	Ferndale Avenue	Alexandra Blvd	Gas Tax - Capital	1	
P17-008	BURNES DRIVE UNDERGROUND IMPROVEMENTS	Burness Drive	Ferndale Avenue	Alexandra Blvd	Water	1	
P17-009	YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	Sanitary Sewer - Annual	1	
P17-009	YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	Storm Sewer - Capital	1	
P17-009	YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	Water	1	
P17-020	ADMIRAL / PARK STORM SEWERS	Admiral Road	Ferndale Avenue	Park Avenue	Storm Sewer - Capital	1	
P17-020	ADMIRAL / PARK STORM SEWERS	Park Avenue	Admiral Road	Rockwood Avenue	Storm Sewer - Capital	1	
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Briarsdale Drive	Chestnut Street W	Glen Morris Drive (North Leg)	Water	1	
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Glen Morris Drive (North Leg)	Adelene Cres	Village Road	Water	1	
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Glen Morris Drive (North Leg)	Jacobson Avenue	Briarsdale Drive	Water	1	
P17-125	2017 BRIDGE REHABILITATION PROGRAM	Dunkirk Road	Cushman Road	-	Gas Tax - Capital	1	
P18-061	GALE CRESCENT ROAD IMPROVEMENTS	Gale Cres	Geneva Street	Oakdale Avenue	Road - Capital	1	
P18-063	MERRITT STREET ROAD AND STREETSCAPING IMPROVEMENTS	Merritt Street	Almond Lane	Walnut Street	Road - Capital	1	
P18-080	2018 RESURFACING PROGRAM	North Entrance Pen Centre	Jacobson Avenue	Pen Centre	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	Queenston Street	Page Street	Eastchester Avenue	Road - Capital	1	
P18-080	2018 RESURFACING PROGRAM	Rockwood Avenue	Woodrow Street	80m E of St Augustine Drive	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	Rockwood Avenue	Hartzel Road	Thornton Street	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	South Entrance Pen Centre	Jacobson Avenue	Pen Centre	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	Welland Canals Parkway	Approx. 75m south of Glendale Avenue	Approx. 185m south of Glendale Avenue	Road - Annual	1	
P18-102	SMYTHE STREET WATERMAIN	Smythe Street	Oakdale Avenue	Haight Street	Gas Tax - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	@ Lock 21	Bridge & Culvert - Replacement - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	@ Lock 10	Bridge & Culvert - Replacement - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	@ Lock 8	Bridge & Culvert - Replacement - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Trillium Railway	CNR	-	Bridge & Culvert - Replacement - Capital	1	
ST18-09	MERRITT STREET GUIDERAIL	Merritt Street	Ball Avenue E	Ball Avenue W	Road - Capital	1	
P15-007	FRANCIS CREEK DRAIN IMPROVEMENTS	Francis Creek	Ridley Road	30m N of Fourth Avenue	Storm Sewer - Capital	2	4
P13-067	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	Road - Capital	2	
P13-067	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	Sanitary Sewer - Annual	2	

**APPENDIX 2 - 2018 CONSTRUCTION PROGRAM - WARD LISTING - NON FACILITIES**

PROJECT NUMBER	PROJECT TITLE	LOCATION	FROM	TO	BUDGET	WARD	
P13-067	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	Water	2	
P16-103	GLENDALE AVENUE	Glendale Avenue	Glenridge Avenue	Jacobson Avenue	Water	2	
P17-063	GLENWOOD / SOUTH RECONSTRUCTION	Glenwood Avenue	Rockcliffe Road	End	Storm Sewer - Capital	2	
P17-063	GLENWOOD / SOUTH RECONSTRUCTION	South Drive	Cliff Road	Rockcliffe Road	Storm Sewer - Capital	2	
P17-064	HIGHLAND AVENUE RECONSTRUCTION	Highland Avenue	Ridgewood Road	Rockcliffe Road	Road - Capital	2	
P17-064	HIGHLAND AVENUE RECONSTRUCTION	Ridgewood Road	Highland Avenue	Riverdale Avenue	Road - Capital	2	
P18-080	2018 RESURFACING PROGRAM	Churchill Street	Chetwood Street	Rykert Street	Road - Annual	2	
P18-080	2018 RESURFACING PROGRAM	Old Fourth Avenue	Fourth Avenue	West Limit	Road - Annual	2	
P18-080	2018 RESURFACING PROGRAM	Pelham Road	Nash Street	Kent Street	Road - Capital	2	
ST18-12	RIDLEY ROAD NEIGHBOURHOOD TRAFFIC MANAGEMENT STUDY	-	-	-	Road - Capital	2	
P16-063	ST GEORGE STREET	St George Street	Dieppe Road	Facer Street	Sanitary Sewer - Annual	3	
P16-063	ST GEORGE STREET	St George Street	Dieppe Road	Facer Street	Storm Sewer - Capital	3	
P18-080	2018 RESURFACING PROGRAM	Export Avenue	Dieppe Road	Welland Avenue	Road - Annual	3	
P18-080	2018 RESURFACING PROGRAM	Winnifred Avenue	Grantham Avenue	Flanders Avenue	Road - Annual	3	
P18-101	RENDALE AVENUE WATERMAIN	Rendale Avenue	Dorchester Blvd	Cushman Road	Gas Tax - Capital	3	
P18-080	2018 RESURFACING PROGRAM	Lake Street	North Service Road	Lakeport Road	Road - Annual	4	6
P15-067	THIRD STREET LOUTH ROAD IMPROVEMENTS	Third Street	South Service Road	Third Avenue	Gas Tax - Capital	4	
P15-067	THIRD STREET LOUTH ROAD IMPROVEMENTS	Third Street	South Service Road	Third Avenue	Road - Capital	4	
P18-062	LAKE STREET ROAD IMPROVEMENTS	Lake Street	Welland Avenue	Queen Street	Road - Capital	4	
P18-064	RACE STREET PARKING IMPROVEMENTS	Race Street	McGuire Street	Carlisle Street	Road - Capital	4	
P18-064	RACE STREET PARKING IMPROVEMENTS	Race Street	McGuire Street	Carlisle Street	Sidewalk - New - Capital	4	
P18-080	2018 RESURFACING PROGRAM	Beecher Street	Raymond Street	Welland Avenue	Road - Annual	4	
P18-080	2018 RESURFACING PROGRAM	Gerrard Street	Raymond Street	Welland Avenue	Road - Annual	4	
P18-080	2018 RESURFACING PROGRAM	Hetherington Street	Catherine Street	Francis Street	Road - Annual	4	
P18-123	THIRD AVENUE LOUTH BRIDGE	Third Avenue	@ Richardson's Creek	-	Gas Tax - Capital	4	
RN18-A	MARTINDALE ROAD IMPROVEMENTS	Martindale Road	South Service Road	Bridge Street	Gas Tax - Capital	4	
P18-132	SHORELINE PROTECTION PROGRAM	City Wide	-	-	Shoreline - Capital	5	6
P16-003	ELSE STREET	Eise Street	Linwell Road	Scott Street	Storm Sewer - Capital	5	
P16-004	RODGER STREET / SHARON STREET	Rodger Street	Glen Park Road	Linwell Road	Gas Tax - Capital	5	
P16-004	RODGER STREET / SHARON STREET	Sharon Street	Glen Park Road	Linwell Road	Gas Tax - Capital	5	
P16-101	CLOVER/HEYWOOD/SANDY COVE	Clover Street	Heywood Avenue	Mckenzie Street	Water	5	
P16-101	CLOVER/HEYWOOD/SANDY COVE	Heywood Avenue	Niagara Street	Clover Street	Water	5	
P16-101	CLOVER/HEYWOOD/SANDY COVE	Sandy Cove	Shoreline Drive	Cul-de-sac	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Bessborough Drive	Grantham Avenue	Foxglove Avenue	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Daley Drive	Grantham Avenue	Edinburgh Drive	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Grosvenor Street	Grantham Avenue	Foxglove Avenue	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Kilbourne Cres	Grosvenor Street	Foxglove Avenue	Sanitary Sewer - Annual	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Kilbourne Cres	Grosvenor Street	Foxglove Avenue	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Oriole Drive	Grantham Avenue	Foxglove Avenue	Sanitary Sewer - Annual	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Oriole Drive	Graham Avenue	Foxglove Avenue	Water	5	
P17-101	BROMLEY DRIVE WATERMAIN REPLACEMENT	Bromley Drive	Stepney Street	South Limit	Water	5	
P17-104	LAKESHORE / SEAWAY HAULAGE WATERMAIN REPLACEMENT	Lakeshore Road	Broadway	Seaway Haulage Road	Water	5	
P17-104	LAKESHORE / SEAWAY HAULAGE WATERMAIN REPLACEMENT	Seaway Haulage Road	Lakeshore Road	Keefer Road	Water	5	
P17-105	NANCY / ROSEMOUNT WATERMAIN REPLACEMENT	Nancy Drive	Vine Street	Strathcona Drive	Water	5	
P17-105	NANCY / ROSEMOUNT WATERMAIN REPLACEMENT	Rosemount Avenue	Vine Street	Gordon Place	Water	5	
P18-080	2018 RESURFACING PROGRAM	Broadway	Seaway Haulage Road	North Limit	Road - Annual	5	

**APPENDIX 2 - 2018 CONSTRUCTION PROGRAM - WARD LISTING - NON FACILITIES**

PROJECT NUMBER	PROJECT TITLE	LOCATION	FROM	TO	BUDGET	WARD	
P18-080	2018 RESURFACING PROGRAM	Croydon Drive	Arthur Street	Arthur Street	Road - Annual	5	
P18-080	2018 RESURFACING PROGRAM	Duncan Drive	Linwell Road	Parnell Road	Road - Annual	5	
P18-100	CHAMPA DRIVE WATERMAIN	Champa Drive	Scott Street	Agar Drive	Gas Tax - Capital	5	
ST18-11	MAPLEWOOD AREA STORM SEWER STUDY	Maplewood Drive			Storm Sewer - Capital	5	
P17-068	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	Gas Tax - Capital	6	
P17-068	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	Road - Capital	6	
P17-068	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	Water	6	
P17-129	WATERCOURSE REHABILITATION 2017	Martindale Pond	Martindale Pond	Lakeport Road	Watercourses - Capital	6	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Old Martindale Road	Green Ribbon Trail	@ Richardson Creek	Bridge & Culvert - Replacement - Capital	6	
P15-117	WATER METER REPLACEMENT PROGRAM	City Wide			Gas Tax - Capital	7	
P18-006	CATCH BASINS AND STORM SERVICE INSTALLATIONS	City Wide			Storm Sewer - Capital	7	
P18-011	2018 SPOT REPAIR PROGRAM	City Wide			Sanitary Sewer - Annual	7	
P18-012	2018 SANITARY SEWER FLUSHING & REAMING	City Wide			Sanitary Sewer - Annual	7	
P18-014	2018 CCTV SEWER INSPECTION	City Wide			Sanitary Sewer - Annual	7	
P18-015	DESIGN FOR 2019 PROJECTS	City Wide			Sanitary Sewer - Annual	7	
P18-040	2018 WALKWAY IMPROVEMENTS	City Wide			Sidewalk - New - Capital	7	
P18-040 *	2018 CONCRETE SIDEWALK REPAIR PROGRAM	City Wide			Sidewalk - Replacement - Annual	7	
P18-041	2018 NEW SIDEWALK CONSTRUCTION PROGRAM	City Wide			Sidewalk - New - Capital	7	
P18-080	2018 RESURFACING PROGRAM	Various			Road - Annual	7	
P18-080	2018 RESURFACING PROGRAM	Various			Road - Capital	7	
P18-081	2018 ASPHALT BASE REPAIR PROGRAM	City Wide			Road - Annual	7	
P18-082	2018 CONCRETE BASE REPAIR PROGRAM	Various City Wide			Road - Annual	7	
P18-083	2018 CRACK SEALING PROGRAM	Various City Wide			Road - Annual	7	
P18-085	2018 GUIDERAIL PROGRAM	Various City Wide			Road - Annual	7	
P18-086	DESIGN FOR 2018 PROJECTS	City Wide			Road - Annual	7	
P18-092	2018 BOULEVARD REINSTATEMENTS	City Wide			Road - Annual	7	
P18-118	VALVES, HYDRANTS & SERVICES	City Wide			Water	7	
P18-119	DESIGN FOR 2019 PROJECTS	City Wide			Water	7	
P18-120	2018 BRIDGE REHABILITATION PROGRAM	City Wide			Bridge & Culvert - Repair - Annual	7	
P18-121	2018 LARGE CULVERT REHABILITATION PROGRAM	City Wide			Bridge & Culvert - Repair - Annual	7	
ST18-05	DTIMS UPDATE				Road - Annual	7	
ST18-10	MASTER SERVICING STUDY	City Wide			Sanitary Sewer - Annual	7	

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**APPENDIX 2 - 2018 CONSTRUCTION PROGRAM - WARD LISTING - FACILITIES**

PROJECT NUMBER	PROJECT TITLE	DESCRIPTION	BUDGET	WARD	
Maint 2018-2	FIREHALL #1 - GENEVA ST	Paint Bay doors	Fire Services - Annual	1	
Maint 2018-6	MERRITTON ARENA	Install electrical outlet at rear of facility for Baseball	Building - Capital	1	
Maint 2018-9	GARDEN CITY ARENA COMPLEX	Replace LED lights in scoreboard	Building - Annual	1	
P18-137	DOUGLAS PARK	Playground Equipment Upgrade	Building - Capital	1	
P18-148	MERRITTON PARK - SITE	Paint parking lot lines	Building - Capital	1	
P18-153	FIREHALL #1- GENEVA ST IMPROVEMENTS	Replace and level garage floor slab	Fire Services - Capital	1	
P18-160-1	MERRITTON ARENA	Replace head cooling pump / condenser pump	Building - Capital	1	
P18-160-1	MERRITTON ARENA	Replace dehumidifier	Building - Capital	1	
P18-160-2	MERRITTON ARENA	Resurface Zamboni access area and snow melt area	Building - Capital	1	
P18-161	GARDEN CITY ARENA COMPLEX	Replace damaged rubber flooring	Building - Capital	1	
P18-162	GARDEN CITY ARENA COMPLEX	Install CO sensors in public areas - Public Health	Building - Capital	1	
P18-167	VLC - ADMIN - OLD	Admin Building - Demolition	Building - Capital	1	
P18-168	VLC - ADMIN - NEW	New Administration Building - Additional Funds	Building - Capital	1	
P18-174-4	CLIFFORDS CREEK PARK	Basketball Court Rehabilitation	Building - Capital	1	
P18-175	ST. CATHARINES MUNICIPAL GOLF COURSE - OLD CLUBHOUSE	Old clubhouse replace roof	Building - Capital	1	
P18-181	ST. CATHARINES MUSEUM	Replace HVAC system - additional funds	Building - Capital	1	
Maint 2018-7	SEYMOUR HANNAH	Replace sprinkler valves	Building - Capital	2	
Maint 2018-8	SEYMOUR HANNAH	Replace all hand driers	Building - Annual	2	
P18-164-1	SEYMOUR HANNAH	Upgrade dehumidification system for pad 1/2 - Phase 1	Building - Capital	2	
P18-164-2	SEYMOUR HANNAH	Replace netting Rink 1	Building - Capital	2	
P18-164-3	SEYMOUR HANNAH	Install battery packs on Zamboni OH Doors - HS	Building - Capital	2	
P18-177	MORNINGSTAR MILL - GRIST MILL	Grist Mill - Repointing of mill - Phase 2	Building - Capital	2	
ST18-015	SEYMOUR HANNAH	Power quality investigation	Building - Annual	2	
P18-144	BUCHANAN HOUSE	Implement security	Building - Capital	3	
P18-145	BUCHANAN HOUSE	Repair floor drains in basement	Building - Capital	3	
P18-174-1	LESTER B. PEARSON PARK - KAC	RegROUT pool deck	Building - Capital	3	
P18-174-2	LESTER B. PEARSON PARK - KAC	Install VFD on HVAC unit	Building - Capital	3	
P18-174-3	LESTER B. PEARSON PARK - KAC	KAC - Additional lighting	Building - Capital	3	
P18-174-4	LESTER B. PEARSON PARK	Tennis Court Rehabilitation	Building - Capital	3	
Maint 2018-1	CITY HALL	General repairs and painting	Building - Annual	4	
P18-134	MONTEBELLO PARK - PAVILION	Pavilion - Replace roof	Building - Capital	4	
P18-140-1	CITY HALL	Remove asbestos and repair hallway 3rd floor	Building - Capital	4	
P18-140-2	CITY HALL	Council Chambers - Microphone Replacement	Building - Capital	4	
P18-141-1	MARKET SQUARE	Reseal and coating of concrete floor	Building - Capital	4	
P18-141-2	MARKET SQUARE	Lighting conversion to LED	Building - Capital	4	
P18-143	OLD COURT HOUSE	Roof maintenance and repairs	Building - Annual	4	
P18-151-1	CARLISLE STREET PARKING GARAGE	Waterproofing inspection and cleaning	Parking Services - Annual	4	
P18-151-2	CARLISLE STREET PARKING GARAGE	Membrane repairs	Parking Services - Capital	4	
P18-151-2	CARLISLE STREET PARKING GARAGE	Concrete structural drain repairs	Parking Services - Capital	4	
P18-151-2	CARLISLE STREET PARKING GARAGE	Crack repairs - stairwell	Parking Services - Capital	4	

## APPENDIX 2 - 2018 CONSTRUCTION PROGRAM - WARD LISTING - FACILITIES

PROJECT NUMBER	PROJECT TITLE	DESCRIPTION	BUDGET	WARD	
P18-151-3	CARLISLE STREET PARKING GARAGE	Install 2' high flow water line for cleaning	Parking Services - Capital	4	
ST18-013	ONTARIO STREET PARKING GARAGE	Annual Strand Monitoring Program	Parking Services - Annual	4	
P18-131	HAPPY ROLPHS BIRD SANCTUARY- ANIMAL SHELTERS	Screening for animal pens and sun protection	Building - Capital	5	
P18-178-1	PORT WELLER COMMUNITY CENTRE - SITE	Update and add parking lot lighting	Building - Capital	5	
P18-178-2	PORT WELLER COMMUNITY CENTRE	Renovate washrooms & make accessible from exterior - including implementation of accessibility	Building - Capital	5	
P18-178-3	PORT WELLER COMMUNITY CENTRE - SITE	Splash Pad- Additional Funds	Building - Capital	5	
Maint 2018-3	BILL BURGOYNE ARENA	Replace rubber flooring in benches	Building - Annual	6	
Maint 2018-4	BILL BURGOYNE ARENA	Replace lights in score clock	Building - Annual	6	
Maint 2018-5	BILL BURGOYNE ARENA	Install puck netting	Building - Capital	6	
P18-165	BILL BURGOYNE ARENA	Install door to isolate bowl from changerooms	Building - Capital	6	
P18-166	BILL BURGOYNE ARENA	Replace Compressor 1	Building - Capital	6	
P18-166	BILL BURGOYNE ARENA	Replace Compressor 2 / motor	Building - Capital	6	
P18-166	BILL BURGOYNE ARENA	Modify electrical panel controls	Building - Capital	6	
ST18-006	REAR INNER RANGE LIGHTHOUSE	Condition assessment - Flood damage	Building - Annual	6	
ST18-016	BILL BURGOYNE ARENA	Preliminary design for accessible upgrades	Building - Capital	6	
ST18-001	GENERAL CONSULTING	Roof Reviews	Building - Annual	7	
ST18-002	GENERAL CONSULTING	Fall Arrest Inspections	Building - Annual	7	
ST18-003	GENERAL CONSULTING	Asbestos annual update inspections	Building - Annual	7	
ST18-004	GENERAL CONSULTING	Energy audits	Building - Annual	7	
ST18-014	GENERAL CONSULTING	Refrigeration Contract Review	Building - Annual	7	

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