CANADA 150

VAUGHAN

memorandum

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COMMUNICATION
FAA - September 20/2017
ITEM - 4

DATE: September 5, 2017

TO: Mayor and Members of Council

FROM: Laura Mirabella-Siddall, Chief Financial Officer and City Treasurer
Stephen Collins, Deputy City Manager, Public Works

RE: **Update on Clean Water and Wastewater Fund grant to the City of Vaughan**
(Related to: Finance, Administration and Audit Committee, Item 4, Fiscal Health Report – Year to date for period ending June 30, 2017)

Purpose

To provide Council with a status update on the Clean Water and Wastewater Fund (CWWF) grants received and to notify Council of budget amendments approved by the City Manager over the summer hiatus related to the grant projects.

Background

The City received notices on June 25 and July 28, 2017 from the Ministry of Infrastructure indicating that all 34 projects submitted for the CWWF had been approved for funding and may begin immediately.

The total eligible cost approved was $27.80 million, of which $13.90 million was to be funded from the Federal CWWF program contribution, $6.95 million was to be funded from the Provincial CWWF contribution and the remaining $6.95 million was to be funded by the City.

Pursuant to the requirement of the Clean Water and Wastewater Fund, the CWWF Transfer Payment Agreement was executed by the Mayor and the City Clerk, as per the authority provided in June 28, 2016 Council Resolution.

Analysis

Projects must be complete with all costs incurred prior to March 31, 2018. Where need is demonstrated, up to 40% of costs can extend beyond March 31, 2018. Extension beyond March 31, 2018 requires pre-approval by the Provincial and the Federal Governments; staff has submitted a request for timeline extension for applicable projects and are awaiting pre-approval. The successful completion of the projects and the associated project payments may require the City to review departmental workloads and reprioritize work plans.

In response to the grant funding received, the 2017 Capital Budget needed to be amended to fulfill CWWF grant requirements and to execute the agreement. Amendments were required for all 34 projects with the type of amendment falling into one of three categories.

1. New projects - The addition of unapproved capital projects in the amount of $8,787,138, awarded through the CWWF program, to the 2017 Capital Budget;
2. Increase of funding, in the amount of $2,115,646, to existing projects and/or;
3. Change of funding source allocation for an existing project

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Prior to this budget amendment, $22.9 million was already approved in existing capital projects, of which $20.9 million was to be funded from City own funding sources and $1.95 million from Gas Tax. With the CWWF grant funding awarded, the City has now been afforded with an opportunity to take on additional projects that otherwise would not have taken place in the immediate future due to funding constraints. The total amended project amount is $33.8 million of which $20.6 million is to be funded from grants. As a result of funding reallocation, $9.9 million of commitments can be released from various reserve accounts, while the Sewer Reserve will be drawn down by an additional $0.25 million.

Funding Analysis of CWWF Awarded Projects

Funding Source	Existing Budget, 2017 and Prior Years	Revised Budget	Funding Release (Funding Required)
Stormwater Reserve	$3,014,561	$2,679,250	$335,311
Water Reserve	$13,483,500	$7,532,890	$5,950,610
Sewer Reserve	$239,804	$489,720	($249,916)
CWDC-Engineering	$3,511,257	$1,581,945	$1,929,313
Roads Reserve	$679,800	$0	$679,800
Gas Tax	$1,950,200	$935,000	$1,015,200
Federal Contribution		13,708,734.49	
Provincial Contribution		6,854,367.73	
Totals	**$22,879,122**	**$33,781,906**	**$9,660,318**

Given the aggressive timelines required to deliver these projects within the grant requirement dates, staff believed it was imperative that budgets be amended over the summer hiatus to allow for necessary procurement to begin. The 2017 Capital Budget Amendment, detailed in Appendix A, has been approved by the City Manager under the authority provided by Section 8D of the Capital (Work Continuance provision).

Throughout the summer months staff from several Departments across the City have worked quickly and diligently to ensure the smooth delivery of this CWWF funded infrastructure. Budgets have been appropriately established, procurement plans have been developed and project management teams have been identified.

Respectfully,

Laura Mirabella-Siddall
Chief Financial Officer and City Treasurer

Stephen Collins
Deputy City Manager, Public Works

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Copy: Daniel Kostopoulos, City Manager
John MacKenzie, Deputy City Manager, Planning and Growth Management
Lloyd Noronha, Director, Financial Planning and Development / Deputy City Treasurer
Dean Ferraro, Director, Financial Services / Deputy City Treasurer
Jennifer Rose, Director, Environmental Services
Jack Graziosi, Director, Infrastructure Delivery
Andrew Pearce, Director, Development Engineering and Infrastructure Planning

Memo Authored by: Maggie Wang, Manager, Corporate Financial Planning and Analysis

Project CWWF Award Information				Existing Budget		Budget Amendment			Funding Sources					
Unique Project ID	Project Title	Project Description	Total Eligible Cost	Existing Capital Project	Approved Budget Amount	New Budget Ask	Budget Incresae	Total Revised Budget Amount	Fed Grant	Provincial Grant	City Funding	City Funding Source	Gas Tax2	Total Funding
VAU-001	Oakbank Pond Aeration System: to impove water quality and pond environment.	Retrofit and upgrade the aeration system in Oakbank Pond. Oakbank Pond is a self contained pond that receives over land run runoff from the surrounding neighbourhood. The pond supports various amphibians and wildlife, due to urbanization pressures the pond requires aeration to promote and sustain pond health. Oakbank pond covers 18,000 sq.m. Install an aeration devise to improve environmental sustainability of the pond	$103,000.00			$117,947.40	$0.00	**$117,947.40**	$51,500.00	$25,750.00	$40,697.40	Stormwater	0	**117,947.40**
VAU-002	Bulk Water Stations (4) Automated Billing System Retrofit	Retrofitting and upgrade of the controls and automated billling system on the existing four (4) bulk water filling stations. Bulk water access is required to support the City-wide building boom and to minimize water theft and non-revenue water	$300,000.00			$343,536.20	$0.00	**$343,536.20**	$150,000.00	$75,000.00	$118,536.20	Water	0	**343,536.20**
VAU-003	City of Vaughan Distribution Watermain Condition Assessment Utilizing Various Technologies	A strategy to address watermain condition assessment using technologies such as, but not limited to, Hydrovac, regular excavations, non-destructive technologies including electromagnetic baseline inspections, CCTV inspectoin, Pressure Transient Monitoring and other emerging technologies.	$600,000.00			$687,072.20	$0.00	**$687,072.20**	$300,000.00	$150,000.00	$237,072.20	Water	0	**687,072.20**
VAU-004	Detailed Design for the Edgeley Pond Improvements in the Vaughan Metropolitan Centre (VMC) and Phase 1 Implementation	Design of required improvements to the City's existing storm water management pond North-east corner of Jane Street & Hwy 7. The Pond is located at 7850 Jane Street North Pond coordinates = 618734.488 / 4850418.87. Redevelopment of Edgeley Pond and Park, as part of the Black Creek corridor renewal, is important to moving development in Vaughan's new downtown forward. The goal of this project is to create a signature public destination that provides innovative sustainable stormwater management, highlights historic and cultural value of the area, incorporates active and passive recreation and advances Vaughan's city-building efforts in light of the significant transit investments in the downtown. The project will involve an extensive consultation with stakeholders, landowners, agencies, and the public. The detailed design process will be developed over 2017 and early 2018. Edgeley Pond and Park Phase 1 implementation is scheduled to start in Q2 of 2018 with an end date of March 2019. The goal of Phase 1 Implementation is to advance the initial construction works of the pond that include mobilization, site preparation , major earthworks, dewatering and site servicing among other construction tasks.	$3,292,158.00	DT-7121-13	$2,867,257.00	$0.00	$791,056.00	**$3,658,313.00**	$1,646,079.00	$823,039.50	$1,189,194.50	DC-Engineering	0	**3,658,313.00**
VAU-005	Black Creek Renewal Class Environmental Assessment	Class EA Study required as a follow-up to the Black Creek Optimization Master Plan Class EA. Study will look at alternative design concepts and a preferred solution for the required creek improvements between Highway 7 and Highway 407 on the east side of Jane St. South-east corner of Jane Street & Hwy 7 (along east side of Jane Street, south of Hwy 7 to Hwy 407) Nearest address Jane Street to Jane Street.The creek runs from 7725 Jane Street to 7581 Jane Street South Pond coordinates = 618783.861 / 4850244.679	$335,000.00	DT-7058-11	$644,000.00	$0.00	$0.00	**$644,000.00**	$167,500.00	$83,750.00	$392,750.00	DC-Engineering	0	**644,000.00**
VAU-006	City of Vaughan Replacement of Out of Calibration Residential, Commercial and Institutional Water Meters	Program to identify and replace residential, commercial and institutional water meters that do not meet the American Waterworks Association (AWWA) industry standard specifications of plus/minus 1.5% accuracy and can't be calibrated in the field. Residential watermeters - 3000 nos. , (ICI)Industrial, Commercial and Institutional watermeters -600 nos.	$2,000,000.00			$2,290,240.70	$0.00	**$2,290,240.70**	$1,000,000.00	$500,000.00	$790,240.70	Water	0	**2,290,240.70**

Appendix A - 2017 Budget Amendment for CWWF Awarded Projects

Project CWWF Award Information				Existing Budget		Budget Amendment			Funding Sources					
Unique Project ID	Project Title	Project Description	Total Eligible Cost	Existing Capital Project	Approved Budget Amount	New Budget Ask	Budget Increase	Total Revised Budget Amount	Fed Grant	Provincial Grant	City Funding	City Funding Source	Gas Tax2	Total Funding
VAU-007	Investigation and Design of 15 culverts in the northern rural areas - City Wide	Investigation and Design of various culverts in preparation for the replacement/ rehabilitation of 15 existing corrugated steel pipe culverts which are located in the northern rural areas of the City of Vaughan. The existing corrugated steel pipes have deteriorated and may impact their ability to convey the desired storm water during a major storm event as well as to protect the structural integrity of the roadway.	$113,300.00			$129,742.20	$0.00	**$129,742.20**	$56,650.00	$28,325.00	$44,767.20	Stormwater	0	**129,742.20**
VAU-008	Repair and Rehabilitation of Pump Stations and Booster Station	The City of Vaughan is completing a Condition Assessment of our older wastewater lift stations and water pumping stations. The recommendations from the Assessment will identify equipment and process improvements, develop a comprehensive maintenance program to augment our existing program, repair/replacement and capital improvement program.	$570,000.00			$652,718.60	$0.00	**$652,718.60**	$285,000.00	$142,500.00	$225,218.60	Stormwater	0	**652,718.60**
VAU-009	Maplewood Booster Station Controls Upgrades	Upgrade of controls to include variable speed drive's (VFD's) to improve pumps pressure control, starts and stops, eliminate water hammer and save on electricity.	$150,000.00			$171,768.10	$0.00	**$171,768.10**	$75,000.00	$37,500.00	$59,268.10	Wastewater	0	**171,768.10**
VAU-010	Pressure District Assessment and District Metering Area Strategy for Non-Revenue Water Reduction	A program to provide a strategy for the implementation of DMA's (District Metering Areas) for the reduction of non-revenue water. The existing pressure districts/zones will be reviewed as part of this study in order to develop a strategy and make recommendations on future improvements. Major growth in the distribution system and increases in non-revenue water have driven this project.	$400,000.00			$458,048.20	$0.00	**$458,048.20**	$200,000.00	$100,000.00	$158,048.20	Water	0	**458,048.20**
VAU-011	Smart Water Metering - City Wide Advanced Metering Infrastructure (AMI) Implementation	A program to identify and replace existing water meters with AMI compatible water meters including implementation of associated AMI infrastructure. Objectives of the program to include: - Analytics / reporting system for timely customer service. Address non-revenue water and district meter areas to lower and measure unaccounted for water. - A smart meter system will allow customers to view their up to date consumption and billing info which promotes conservation and wise use of water. -Provide a customer-focused solution which enhances abilities to identify leaks, water quality and/or safety issues -Determine the most cost effective method to deliver smart metering and associated technologies -Enhance accuracy of water meter billing (eg. hard to read meters and estimated reads)	$750,000.00			$858,840.30	$0.00	**$858,840.30**	$375,000.00	$187,500.00	$296,340.30	Water	0	**858,840.30**
VAU-012	Non-Revenue Water (NRW) Assessment and Reduction Recommendations	A report identifying area gaps in measurement and water loss with capital and financial recommendations. The 2017 budget for unmetered (non-revenue) water is at 13.00% or approximately $14 M. The non-revenue water (NRW) can be broken down as: -apparent losses – customer meter degradation; -real losses – leakage on mains, service connections; and -unbilled consumption – fire suppression, main flushing and maintenance.	$270,000.00			$309,182.50	$0.00	**$309,182.50**	$135,000.00	$67,500.00	$106,682.50	Water	0	**309,182.50**
VAU-013	Development of Corrosion Control Strategy and Implementation of Pilot Area	Development of a strategy to address corrossion within the watermain distribution system which may include, but not limited to, measures such as cathodic protection, anode protection, deno wrap, geotechnical investigation and other new technologies. The chosen method to address corrosion will be applied on a pilot area to test effectiveness.	$400,000.00			$458,048.20	$0.00	**$458,048.20**	$200,000.00	$100,000.00	$158,048.20	Water	0	**458,048.20**

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VAU-014	Rehabilitation of Four Stormwater Ponds to Restore Design Volumes and Efficiencies as follows:Fairfax Pond, Larissa Pond, Aviva Aprk Pond and Exchange Way Pond	Removal of accumulated sediment to improve functionality of the stormwater ponds. Sediment removal also improves water quality in receiving watershed. Given that a majority of the targeted ponds are in commercial and light industrial locations there will be a strong likelihood that the pond cleanouts will be extremly benefical in improving the surronding watersheds.	$500,000.00			$572,560.20	$0.00	**$572,560.20**	$250,000.00	$125,000.00	$197,560.20	Water	0	**572,560.20**
VAU-015	Citywide Sanitary Sewer System Inflow and Infiltration Monitoring Program"	CCTV Inspection of sanitary and storm sewers to inform capital asset management program.The City's 10% CCTV program is structured to investigate various areas of the City of Vaughan over a 10 year cycle. We wopuld accelerate the program in some of our older area's where the construction material is more susceptible to hydraulic and structural issues. The additonal funding requested would allow us to add 173,892 m of additional wastewater and stormwater piping to be inspected.	$500,000.00			$572,560.20	$0.00	**$572,560.20**	$250,000.00	$125,000.00	$197,560.20	Water	0	**572,560.20**
VAU-016	Citywide Sanitary Sewer System Inflow and Infiltration Monitoring Program	Find sources of inflow and infiltration in the sanitary sewer system to support York Regions mandate from the MOECC to reduce I/I in York Region. Inflow and infiltration contribute unneccessary water to wasetwater collection and treatment system resuting in higher operational costs. The City of Vaughan developed an Inflow and Infiltration Reduction Program which notes Flow Monitoing as a key component of the Program. High priority areas will be identified using the Region of York's flow monitoring data, past records of sewer surcharges and conveyance constraints, high peak flows during wet weather conditions and intensification corridors identified under the City of Vaughan's Official Plan. Flow meters amd micro meters will be installed within mini basins identified high priority areas. Flow meters will be monitored and data collected will be analyzed for significant Inflow/Infiltration occurrences. Rain Gauge data will be utilized in support of the flow monitoring program and associated data analysis.	$200,000.00			$229,024.10	$0.00	**$229,024.10**	$100,000.00	$50,000.00	$79,024.10	Water	0	**229,024.10**
VAU-017	Update water models - update of the water distribution system hydraulic analysis model	Update the water model to perform hydraulic analysis on the water distribution system to inform the capital asset management program, optimize system efficiencies and assist development.	$370,000.00			$423,694.50	$0.00	**$423,694.50**	$184,541.50	$92,271.00	$146,882.00	Water	0	**423,694.50**
VAU-018	Update wastewater models - update of the wastewater collection system hydraulic analysis model	Update the wastewater model to perform hydraulic analysis on the wastewater collection system to inform the capital asset management program,ptimize system efficincies and assist development.	$370,000.00			$423,694.50	$0.00	**$423,694.50**	$184,541.50	$92,271.00	$146,882.00	Wastewater	0	**423,694.50**
VAU-019	Church Street Stormwater pumping station pump improvestment	Stormwater pump requires replacement along with float system and minor electrical upgrades. Small pump size of 0.5 HP is estimated to be over 20 years old.	$46,350.00	EV-2099-17	$46,350.00	$0.00	$6,793.60	**$53,143.60**	$23,175.00	$11,587.50	$18,381.10	Wastewater	0	**53,143.60**
VAU-020	Rehabilitation of Sugar Bush Road Stormwater Pond to Restore Design Volumes	Removal of accumulated sediment to improve functionality of the stormwater pond. Given the signiifcant size of this pond, cleaning of the forebay will the main focus of the clean-up. A batymetric survey will be completed to determine the volume of sediment to be removed. The sediment will be analyzed to determine the appropriate disposal location.	$77,250.00			$88,460.00	$0.00	**$88,460.00**	$38,625.00	$19,312.50	$30,522.50	Wastewater	0	**88,460.00**
VAU-021	Rehabilitation of Fossil Hill Pond Stormwater Pond to Restore Design Volumes	Removal of accumulated sediment to improve functionality of the stormwater pond. A batymetric survey will be completed to determine the volume of sediment to be removed. The sediment will be analyzed to determine the appropriate disposal location. An excavator will be utilized to temporarily stockpile sediment on site in order to allow moisture content to be reduced.	$144,200.00	EV-2112-17	$144,200.00	$0.00	$20,919.60	**$165,119.60**	$72,100.00	$36,050.00	$56,969.60	Wastewater	0	**165,119.60**

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VAU-022	Rehabilitation/Replacement of a 975mm Corrugated Steel Pipe Culvert at 6550 King-Vaughan Road, just east of Huntington Road.	Rehabilitation/Replacement of 25m of a 975mm Corrugated Steel Pipe Culvert at 6550 King-Vaughan Road, just east of Huntington Road.	$630,000.00	CD-2003-15	$628,815.00	$0.00	$0.00	**$628,815.00**	$306,086.90	$153,043.45	$169,684.65	Stormwater	0	**628,815.00**
VAU-023	Retaining Wall Rehabilitation for Stormwater Management at intersite Place (creek restoration)	Rehabilitaiton of the existing failed retaining wall adjacent ot the concrete culert crossing intersite Place. The failure can be attributed to the poximity of the retaining wall to the stormwater outfall causing undermining.	$680,000.00	CD-2025-16	$679,800.00	$0.00	$0.00	**$679,800.00**	$329,475.60	$164,737.80	$185,586.60	Stormwater	0	**679,800.00**
VAU-024	Pine Valley Storm Headwall and Spillway Rehabiliations	Construction of an appropriate storm water management solution to rectify erosion and sediment deposits from the storm sewer ourlet located on Pine Valley Drive, at Club House Road to protect the structural integrity of the roadway. Elements include the installation of plunge pools, weirs, check dams, rip rap & energy dissipaters.	$500,000.00	EN-1854-13	$1,545,000.00	$0.00	$0.00	**$1,545,000.00**	$250,000.00	$125,000.00	$1,170,000.00	Stormwater	0	**1,545,000.00**
VAU-025	Stormwater Management Slope Stabilization by Rehabilitating an Exising Retaining Wall along the east side of Clarence Street.	Stabilizing the existing slope on the east side of Clarence Street. Slope has failed, south of Wycliffe Avenue. The failure can be attributed to uncontrolled stormwater conveyance due to its proximity to the Humber River and the failure of an existing 2400mm culvert crossing the roadway. Consequently, there are concerns that the existing retaining wall can shift and slide into the creek. Work will rehabilitate the existing retaining wall to mitigate further stormwater erosion damage to the slope and replace the failed culvert.	$1,500,000.00	EN-1950-13	$600,000.00	$0.00	$1,296,876.80	**$1,896,876.80**	$750,000.00	$375,000.00	$581,876.80	Stormwater	190,000.00	**1,896,876.80**
VAU-026	Islington Avenue Storm Water Management Impovements	Rehabilitation/Replacement of the existing 400m corricated steel pipe storm sewer on Islinton Avenue, north of Bindertwine Boulevard. Includes storm water management improvements along Islington Avenue.	$570,000.00	ID-2036-17	$566,500.00	$0.00	$0.00	**$566,500.00**	$274,414.00	$137,207.00	$154,879.00	Stormwater	0	**566,500.00**
VAU-027	Investigation and design for the rehabilitation/replacement of the existing CSP culverts at the intersection of Kirby Road and Kipling Avenue	Investigation and design for the rehabilitation/replacement of the existing CSP culverts at the intersection of Kirby Road and Kipling Avenue. Replacement/ rehabilitation of existing three corrugated steel pipe culverts which are located west, east and south of the intersection at Kirby Road and Kipling Avenue. The existing corrugated steel pipes have deteriorated and may impact their ability to convey the desired storm water during a major storm event as well as to protect the structural integrity of the roadway.	$114,000.00	CD-2020-16	$113,300.00	$0.00	$0.00	**$113,300.00**	$56,650.00	$28,325.00	$28,325.00	Stormwater	0	**113,300.00**
VAU-028	Investigation and design for the Replacement/Rehabilitation of santiary sewer on Rivermede Road and	Investigation and design for the rehabilitation/replacement of the existing 255m of 250 mm and 250m of 525mm concrete sanitary sewer on Rayette Road and 370m of 600mm concrete sanitary pipe on Rivermede Road. Existing concrete sanitary sewer has deteriorated.	$202,465.47	EN-1971-13	$210,200.00	$0.00	$0.00	**$210,200.00**	$101,232.74	$50,616.37	$58,350.89	Stormwater	0	**210,200.00**
VAU-029	Replacement of the exsiting 300mm ductile watermain to PVC on Centre Street from Dufferin Street to Bathurst Street.	Replacement of the exsiting 300mm ductile iron watermain to PVC on Centre Street from Dufferin Street to Bathurst Street. The existing iron watermain requires excessive maintenance and repairs and it is more cost effective to replace it in conjunction with the H2 - Bus Rapid Transit design and construction contract. Overall water quality will improve along with the decrease in service disruptions due to watermain breaks.	$3,644,378.52	EN-1999-14	$3,600,000.00	$0.00	$0.00	**$3,600,000.00**	$1,800,000.00	$900,000.00	$900,000.00	Water	0	**3,600,000.00**

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Project CWWF Award Information				Existing Budget		Budget Amendment			Funding Sources					
Unique Project ID	Project Title	Project Description	Total Eligible Cost	Existing Capital Project	Approved Budget Amount	New Budget Ask	Budget Increase	Total Revised Budget Amount	Fed Grant	Provincial Grant	City Funding	City Funding Source	Gas Tax2	Total Funding
VAU-030	Replacement of the exsiting ductile iron watermain (150mm and 300mm diameter) with PVC watermain on Rosmull Crt/Crofters Road /Kirkhill Place / Rossmull Crt, Crofters Road/ Kirkhill Pl/ Stegman's Mill & Villagewood Crt	Replacement of the exsiting ductile iron watermain (150mm and 300mm diameter) with PVC watermain on Rosmull Crt/Crofters Road /Kirkhill Place Rossmull Crt, Crofters Road, Kirkhill Pl Coordinates = 612555.167 / 4851551.623. Kipling Avenue Cordinates = 612673.36 / 4849347.44. Stegman's Mill Coordinates = 610510.469 / 4855770.997. Villagewood Court Coordinates = 612718.654 / 4848558.771. The existing iron watermain requires excessive maintenance and repairs and it is more cost effective to replace it in conjunction with the City's road works. Overall water quality will improve along with the decrease in service disruptions due to watermain breaks.	$2,859,959.86	CD-2016-15	$2,991,200.00	$0.00	$0.00	**$2,991,200.00**	$1,429,979.93	$714,989.96	$846,230.11	Water	0	**2,991,200.00**
VAU-031	Replacement of the exsiting ductile iron watermain (150mm, 300mm and 400mm diameter) with PVC watermain on Andrew Park/ Button/ Marilyn Place/North Humber Road	Replacement of the exsiting ductile iron watermain (150mm, 300mm and 400mm diameter) with PVC watermain Andrew Park, Marilyn Place, Button Road, North Humber Drive Coordinates = 612024.914 / 4848149.044 The existing iron watermain requires excessive maintenance and repairs and it is more cost effective to replace it in conjunction with the City's road works. Overall water quality will improve along with the decrease in service disruptions due to watermain breaks.	$2,377,956.98	CD-1920-15	$3,869,100.00	$0.00	$0.00	**$3,869,100.00**	$1,188,978.49	$594,489.24	$1,340,632.27	Water	$745,000.00	**3,869,100.00**
VAU-032	Replacement of the exsiting ductile iron watermain (150mm and 300mm diameter) with PVC watermain on Planchet Road and Balsaltic Road	Replacement of the exsiting ductile iron watermain (150mm and 300mm diameter) with PVC watermain Planchet Road , Balsaltic Road Coordinates = 620065.821 / 4853089.544. Mckenzie Street Coordinates = 613051.469 / 4848299.982	$1,822,189.26	CD-2019-15	$3,240,400.00	$0.00	$0.00	**$3,240,400.00**	$911,094.63	$455,547.31	$1,873,758.06	Water	0	**3,240,400.00**
VAU-033	Investigation, analysis and design of the Watermain rehabilitation/replacement Program for 2018	The investigation, preliminary design and detailed design for the replacement of the exsiting ductile iron watermain (150mm and 300mm diameter) with PVC watermain Gaudaur Road, Hanlan Road, Pearce Road , Scholes Road Coordinates = 616273.272 / 4847311.926. Major Mackenzie Drive Coordinates = 617383.196 / 4856087.524	$708,629.16	CD-2002-16	$566,500.00	$0.00	$0.00	**$566,500.00**	$283,055.10	$141,527.55	$141,917.35	Water	0	**566,500.00**
VAU-034	Investigation, analysis and design of the Watermain rehabilitation/replacement Program for 2019	The investigation, preliminary design and detailed design for the replacement of the exsiting ductile iron watermain (150mm, 200mm and 300mm diameter) with PVC watermain Ayton Cr, Chatworth Cr, Crofters Rd, Paddington Rd, Woburn Dr Coordinates = 612405.442 / 4851756.503. Costa Rd, Creditstone Rd, Doughtton Rd, Freshway Rd, Killaloe Rd (300mm WM) Cordinates = 619298.147 / 4849982.825. Clark AveCoordinates = 625660.42 / 4851465.318. Steeles Ave @ CP Track	$708,629.16	CD-2027-17	$566,500.00	$0.00	$0.00	**$566,500.00**	$283,055.10	$141,527.55	$141,917.35	Water	0	**566,500.00**
			$27,809,465.41	$0.00	$22,879,122.00	$8,787,138.10	$2,115,646.00	$33,781,906.10	$13,708,734.49	$6,854,367.73	$12,783,803.88		$935,000.00	$33,781,906.10